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Alberta Naturalist

Vol. 6 No. 2 JUNE, 1976

Who snared the Millwoods fox?

See page 65

ALBERTA NATURALIST

VOLUME 6 NUMBER 2 JUNE, 1976

TABLE OF CONTENTS

COVER STORY: Mortality rates of Red Fox pups, and causes of death of adult foxes in central Alberta, by Dick Dekker ... 65
Dick Dekker, recipient of first Loran L. Goulden Memorial Award, by Martin K. McNicholl 68
First sight record of Western Sandpiper at Beaverhill Lake, with a note on the fieldmarks of the Least Sandpiper, by Dick Dekker 73
Alberta Christmas bird counts, 1975, compiled by Virginia Lang 76
A critique on the abatement of mosquitoes, by Brad Smith 83
Highlights of winter, 1975-1976, birds - southern Alberta, by Rudi Butot 94
Faunal observations for north-central Alberta: winter 1975-76, by John H. Acorn 96
Observations of migrating eagles, by Patrick J. Paul 100
A brief report on Alberta raptor banding, by Ken Trann 101
Pygmy Owl takes House Sparrow at Banff feeder, by D.V. Weseloh, Linda McKeane Weseloh, and W.E. Renaud 103
Notes on roosting habits of Gray-crowned Rosy Finches, by Wayne R. Nordstrom and James R. Butler 105
Bird notes from Lethbridge, by Helen Graham 107
Letter to the Editor, by Helen Graham 109
Provincial Museum News for Naturalists (3), by David A.E. Spalding 109
Naturalists' Bookshelf (19): Birds of the Rosetown-Biggar District, Saskatchewan. Reviewed by Martin K. McNicholl .. 111
Naturalists' Bookshelf (20): The Western Swan Hills. Reviewed by Lloyd Lohr 113
Naturalists' Bookshelf (21): Review of interaction between migratory birds and Athabasca Oil Sands Tailing Ponds: report and recommendations. Reviewed by D.V. Weseloh 115
Naturalists' Bookshelf (22): Calgary's Natural Areas: a popular guide. Reviewed by John M. Powell 119
Recent publications on the natural history of Alberta (16): A special compilation of lesser known reports, by James W. Case 121

Recent publications on the natural history of Alberta (17): by Martin K. McNicholl 129
FAN news, reports, projects 136
Club News 151
Conservation News and Comments 161
Notes and News 174
Requests for Information, Meetings, Announcements 175

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COVER STORY

MORTALITY RATES OF RED FOX PUPS, AND CAUSES OF DEATH OF ADULT FOXES IN CENTRAL ALBERTA

By Dick Dekker
3819 - 112A Street, Edmonton

Red foxes (Vulpes vulpes) have quite recently established themselves in central Alberta and appear to seek out the neighbourhood of man, possibly as a way of avoiding their larger and aggressive cousin the coyote (Canis latrans) (Dekker, 1973). Foxes now occur in the outskirts of cities such as Calgary and Edmonton (Danielson, 1975; Dekker, 1975).

The tendency by these foxes of raising their offspring near human habitation is reflected in a high mortality.

The known fatality rate of 7 litters of pups that I observed amounted to 46.6%. Of a total of 30 youngsters, a minimum of 14 were lost before reaching the age of 3 months: 3 were shot, 2 taken as pets, 2 run over by traffic, 2 disappeared, 3 succumbed to unknown causes (poisoned ground squirrels?), and 2 were killed by dogs.

The mortality rate of adult foxes also seems high. Their superior speed and agility allows them to cope easily with most of their canid enemies, such as coyotes and farm dogs (C. familiaris). But greyhounds and trained coyote killers are another matter. These extremely fast and powerful dogs hunt by sight. When good cover is available, coyotes as well as foxes have a fair chance of getting away. In central Alberta, foxes occur mainly on open fields and pastures, while coyotes dominate on brushy pasture land. Consequently, in some areas the newly revived "sport" of coursing greyhounds has a serious impact on Red Fox populations.

Three territories near Tofield, where I regularly saw and studied foxes during the winters of 1971 to 73, became deserted after hounds worked the area for one or two seasons. The hounds are transported around the countryside by truck, and released at suitable locations. When the quarry is put on the run, the truck will

attempt to follow the chase by road. Fresh dogs may be released when the opportunity arises. I have found one fox that was mangled to death and not retrieved or found by the people responsible. I was told of about eight others by local residents.

At present there are no restrictions governing the use of these hounds. It seems that some owners run them on a year-round basis. To protect young foxes, I would like to see the hounds penned up during summer. I would also advocate that the hunt be called off after December when the adult foxes pair up in preparation for the mating season.

The great majority of farmers who are aware of the occurrence of foxes on their property appreciate their presence and don't want them to be harmed, providing Reynard doesn't spoil their goodwill by going after chickens. If chicken stealing does happen, some farmers react by providing a more secure shelter. Others will sit up at night and wait for the fox to come within shotgun range. This happened in one of my regularly visited fox territories in the Millwoods subdivision on the eastern outskirts of Edmonton. The carcass of only one animal was found, but I suspect that several foxes were shot, as they became quite scarce. At a den south of Edmonton, at least one chicken-fed pup was killed. Traps were to be placed in the area during the winter (Mike Hampson, Pers. comm.).

In their open habitat of fields and pastures, never far from farms and roads, foxes are habituated to human activity and become increasingly trusting and tame. Eventually, many get shot. Along highway 14 near Tofield, where foxes had been denning for 4 years in succession, tolerated and welcomed by the property owners, the two adults were shot from the road in late February (Ron Slagter Pers. comm.).

To see a fox in the full glory of his winter fur, perhaps the prettiest animal to grace the desolate snowdrifts of rural Alberta, is an esthetic experience that few people fail to appreciate. It is a sad fact of life that some individuals regard the fox's value only in a monetary sense. In early January of this year, I found one of "my" foxes in Millwoods in a snare. It had been set

without the consent or knowledge of the land owner at the entrance of a den under a barn. The trapped animal could not be pulled out from under the building as it braced itself behind the stone foundation. I cut the wire as far inside the hole as I could reach, hoping fervently that the animal would manage to free itself. More than a week passed before a fresh snowfall provided perfect tracking conditions. I was delighted to find the spoor of a fox which showed the drag marks of a short wire. Since then I saw the animal regularly. The snare appeared to be around its middle. The fox seemed to be able to live with it and behaved no differently from other foxes that I have known. During February and March I watched it pounce and dig for moles on the crusted snow. He also snatched up a Red Squirrel (Tamiasciurus hudsonicus) which had ventured far out onthe field, crossing from one woodlot to another. The experience with the snare had not made him more shy than before. On the contrary, I had some very close views, peering through the scope at the details of his pelage. He was a pale-coloured male, much larger than the dark vixen. In late March, after the birds started to arrive, clamouring for my attention, I lost track of the pair. In June I hoped to find them back at the den. But none of the 4 dens used alternately in preceding years showed any signs of occupancy.

The sad incident with the snare had one positive side for me; the marks left by the dragging snare made it possible to recognize the trail of this particular animal, a unique opportunity to establish the size of its daily or nightly range. It was about 2 square miles.

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DICK DEKKER, RECIPIENT OF FIRST LORAN L. GOULDEN MEMORIAL AWARD

by Martin K. McNicholl

Department of Zoology, University of Alberta, Edmonton

The first Loran L. Goulden Memorial Award was announced on March 9, 1976 at a regular meeting of the Edmonton Natural History Club. The committee was anxious that the first award be given to a person who had not only contributed substantially to nature study in Alberta, but also to a person who has substantially assisted and encouraged the efforts of the late Loran L. Goulden. The one person who best qualified for this dual recognition was without any doubt artist-naturalist, Dick Dekker. Dick was a frequent field companion of Loran, especially at Beaverhill Lake, and encouraged Loran's efforts to upgrade the Edmonton Naturalist by sharing his observations, contributing articles, and contributing covers for the front of the magazine. In addition, he designed the logo of the Edmonton Natural History Club, and helped Loran develop the falconry policy of the Federation of Alberta Naturalists.

Dick was born in Rotterdam, Holland. Prior to his arrival in Canada, he had distinguished himself in Holland as a prolific writer of nature articles. He was especially active in writing articles for Children's magazines. A regular column, "Avontuur in de natuur", in one such magazine aptly illustrated his many talents. Each column was accompanied by a drawing of the subject discussed, and each subject was based on an actual incident witnessed by Dick in the field. He wrote children's articles in other magazines, too, but was by no means restricted to children for an audience, as he also wrote for adult magazines and the national newspaper in Holland. His articles were usually illustrated with his drawings or his own photographs. Frequently these articles were published not only in Holland, but also in Sweden and Belgium. While in Holland, Dick became involved in two controversial subjects. A sea eagle was shot one year, with jubilant photographs of the triumphant killers splashed in the National Newspaper. This led to a tremendous public outcry, which in turn led Dick to travel to Sweden to study these magnificient birds at the nest. With the co-operation of

Swedish authorities, Dick was able to obtain considerable data on the habits of these birds, resulting in well illustrated articles on the birds back in Holland. This in turn helped rally public sympathy for the birds, and indignation against people irresponsible enough to kill them. The irresponsible killing of songbirds in Italy had by this time created considerable resentment in Holland, and conservationists there became active in demanding official protests to the killing of Dutch birds in Italy. Dick was, of course, in agreement with this sentiment, but pointed out that the Dutch people could only seem sincere in their protests if they in turn stopped hunting waterfowl migrating from Scandinavia. Needless to say, this viewpoint stirred up controversy within hunting circles. While in Holland, Dick also published three nature guides, each illustrated again with his own drawings. Thus, Dick was a very prominent naturalist while in Holland. All this was accomplished while he worked as a commercial artist for a large publishing firm.

In 1959 Dick moved to Calgary, Alberta for two years, although half of one of those years was spent in the Yukon. While in Calgary, he wrote articles to the Calgary Herald protesting the robbing of a falcon nest and questioning the current policy on "wolf control." These articles were prior to the time when the public in general would tend to support his views on these subjects. Thus, his thinking was somewhat before his time. Dick's experiences in Canada were recounted back in Holland in several magazine articles, and in two books, one on the Yukon, the other on Alberta's foothills. He returned to Holland, but was soon back in Alberta, this time as a resident of Edmonton.

Shortly after his return to Canada, Dick again served as a "Devil's advocate" for conservation. Shocked at our policy of poisoning and killing wolves, he wrote an article in the Edmonton Journal, "Is wolf control wrongly handled" in 1964. In this article he stressed the importance of large predators, an attitude now widespread, but at that time unpopular. Dick has studied wolves in Jasper National Park since 1964 on a regular basis, and while in the park he was impressed by the threats posed on National Parks in Canada by encroaching development. This was in marked contrast to Sweden, where all developments were restricted to areas outside

the park. His concern over this issue was expressed in another Edmonton Journal article, "Parks are no playgrounds," 1965. These views are now, of course, widely expressed by conservationists and other concerned citizens, but were at that time almost heretical to many. Since that time Dick has continued to express his views on controversial topics, such as the wisdom of breeding falcons in captivity for restocking into the wild, and whether grazing should be stopped at Beaverhill Lake. In all cases, his viewpoint has been based on his own fieldwork, and can be considered to be at least as carefully thought through as opposing views. Whether one agrees with Dick on a given issue, one must respect his view and consider his arguments very carefully before rejecting his position.

When Dick first moved to Canada his prolific pen slowed, due to his uncertainty of writing in a new language. Yet, when he entered a contest for children's authors by W.J. Gage, his story, "Silent Paws and Shining Eyes" was among the few chosen for publication in a special book for children. He has now written many articles on Alberta natural history (See list, following).

In Alberta, Dick has undertaken several studies, mostly concerned with predators. His first major study was that of eagles in the foothills near Calgary. This included their fascinating interactions with other species of animals, a topic which has permeated all his predator studies. Since 1964 he has done a continuing study of wolf behaviour and ecology in Jasper National Park. When Lu Carbyn studied wolves there for his doctorate degree, Dick co-operated with Lu, to their mutual benefit. Dick also studied Red Foxes in Prince Albert National Park, Saskatchewan, where he co-operated with Dave Henry. More recently, Dick has been studying foxes in the vicinity of Beaverhill Lake and Edmonton. Although falcons have been extensively studied on their breeding grounds, little attention has been paid to their behaviour while on migration. This important gap is being considerably reduced by a long term study on Peregrines and Merlins in migration by Dick Dekker. The study, as outlined in "Ethology Information Exchange" No. 2 of the Raptor Research Foundation includes recording dates, numbers, age and sex ratios, hunting behaviour, success ratios,

efficiency of adults vs. immature in capturing prey, reactions of prey, competition, and piracy. Most of these topics have not been adequately studied previously in these falcons. The ninth spring of this intensive study has now been completed, mostly at Dick's own expense, but partly funded by the Alberta Fish and Wildlife Division for the last three years. One more year is planned before publication. Dick's work with eagles and falcons led to his position in the Edmonton Bird Club as Chairman of the Raptor Committee for several years. The manuscript for a book based on his work on eagles, falcons, wolves and foxes has now been completed.

In addition to these major studies, Dick has been monotoring migration at Beaverhill Lake, where jaegers have been of special interest. Many of his wildlife paintings depict scenes there. His artwork in wildlife has continued, and he has exhibited in the Canadian Nature Federation art shows and in the recent FAN art show.

The above paragraphs constitute only a brief sketch of Dick Dekker as a naturalist. His artwork, photography, technical writing and studies, popular articles for magazines, conservation writing, and strong concern for the animals with which he works all combine to make Dick Dekker a most deserving recipient of the first Loran L. Goulden Memorial Award for outstanding natural history work in Alberta.

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FIRST SIGHT RECORD OF WESTERN SANDPIPER AT BEAVERHILL LAKE, WITH A NOTE ON THE FIELDMARKS OF THE LEAST SANDPIPER

By Dick Dekker
3819 - 112A Street, Edmonton

There is only one authenticated record for the Western Sandpiper (mauri) in Alberta; a bird was collected near Calgary on August 18, 1972 (Palindat et al 1973). There are several sight records, all originating from the southern portion of the province: Sheppard, May 10-11, 1959; Sullivan Lake, August 21, 1960; Frank Lake, August 17, 1968 and Strathmore, April 1, 1971. (Salt and Wilk 1966; Palindat et al 1973).

The reasons why no Westerns have previously been seen at Beaverhill Lake, a great place for waders and bird-watchers alike, are open to speculation.

During August and the first half of September 1975, I visited the shores of Beaverhill on 15 days, primarily to study the hunting habits of Merlins and other birds of prey that habitually prey on shorebirds in that region. While waiting for falcons to appear, I spent many hours searching for Western Sandpipers among the numbers of peep that lined the shore. On September 14, when I had abandoned all thought of ever finding the elusive Western, I noticed a single sandpiper which featured dark legs, a slightly down-curved bill of medium length, whitish breast and belly, and grey upper parts. Along the scapulars ran a rusty streak, quite noticeable under good light conditions. I watched the peep through 10-power glasses for about 20 minutes, at times less than 5 meters away.

Upon returning home, I once more looked at the illustrations in the handbooks available to me. The bird that I had seen did not have a bill quite as long as the Western Sandpipers portrayed in the Peterson's and Golden field guides (Peterson 1961; Ressins et al 1968), but it looked exactly like the autumn immature in Godfrey's Birds of Canada (1966).

The Western Sandpipers sighted and collected near Calgary (by Palindat et al) were not identified on the basis of their long, down-curved bill. Their "most distinguishing feature ... was the rufous-chestnut patch high on the wing." During my search for the Western Sandpiper, I had had ample opportunities to compare the plumages of the different species of peep. When seen at close quarters, the identification of the Baird's (C. Lairdii) and the Semipalmated (C. pusillus) offer little difficulty. The Baird's is easily recognized by its buffy colour and its slender body. The Semipalmated has a whitish breast, grey back and dark legs. The bills of both species are rather short and not curved. The fieldmarks of the Least (C. minutilla) are less straight forward and I found some points to be at variance with the information provided by the handbooks. "The Birds of Canada" lists the bill of the Least as straight, whereas it is in fact slightly down-curved

at the tip. This is especially noticeable when the bird is viewed obliquely from behind. I had a chance to verify this point when a touch of botulism occurred in the lake, and numerous dead ducks and shorebirds could be found. I picked up and examined several Least Sandpipers and kept one of the carcasses in my fridge to show it to Dr. Otto Höhn and to Dr. Chip Weseloh, who both agreed that the Least's bill was indeed slightly down-curved.

Another surprising discovery concerning the fieldmarks of the Least Sandpiper concerned with colour of its legs; sometimes they were not yellow at all, as they are supposed to be, but a greenish brown.

Because of these peculiarities of bill shape and leg colour, coupled with its rusty summer plumage, some Least Sandpipers may look deceptively like a hoped-for Western.

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ALBERTA CHRISTMAS BIRD COUNTS, 1975

Compiled by Virginia Lang
2608 Garland Street, S.W., Calgary

This year 9 Christmas Bird Count were conducted in Alberta. Excluding Red Deer, a total of 27,610 individuals of 68 species were counted by 157 participants. Following is a summary.

Banff-Canmore

27 December; morning partly cloudy, intermittent snow, afternoon mostly clear, tempurature 19° F to 35° F, wind SW 7 mph, snow cover 24" - 36", fresh water partly open; 51° 10' N 115° 28' W center on the Bow River 4.5 miles east of Banff, in Banff National Park, including Banff, Canmore, Harvie Heights, the Lake Minnewanka Loop Road, Vermilion Lakes and Sulphur Mountain Hot Springs; habitat coverage: woodland 75%, marsh 10%, residential 10%, old field 3%, river 2%; party hours 80 (67 on foot, 13 by car) plus 13 at feeders; total party miles 185 (95 on foot, 90 by car); 31 observers, 28 in 7 parties, 3 at feeders. 36 species, 1,366 individuals. (Add: Great Horned Owl, Rock Dove, Gray-Cr. Rosy Finch).

Participants: Allan Brooks, Ed Carleton, Jack Chisholm, Mary Cully, Sally and Ross Dobson, Shiela Douglas, Susanne and Rainer Ebel, Linda and Halle Elygare, Ruth and Bruce Gorden, Aileen Harmon, Alaine Hicks, Elizabeth and Geoffrey Holroyd (compiler), Hazel and Ted Hutchins, Margie and Keith McDougall, Diane and Mike McIvor, Gerald Moffit, Harold Mortimer, Bunty Nelson, Tom Saler, Ian Sadler, Morna Schechtel, Jon Whyte, Gerry Wilke.

BOW SUMMIT

2 January; morning partly cloudy, afternoon mostly clear, temperature 5°F to 5°F, wind S. 0-5 mph, snow cover 36" to 60", fresh water frozen; 51° 39' N 116° 25' W center at the south end of Bow Lake, in Banff National Park including Peyto, Bow and Hector Lakes and Helen and Mosquito Creeks; habitat coverage: subalpine woodland 80%, alpine meadow 12%, river and lake 8%; 14 observers in 4 parties, total party hours 36 (30 on foot, 6 by car), total party miles 98 (40 on foot, 58 by car). 9 species, 153 individuals.

Participants: Margot Bartzen, Keri Finley, Linda and Halle Flygare, Elizabeth and Geoffrey Holroyd (compiler) Marie Jasieniuk, Margie McDougall, Diane and Mike McIvor, Linda McKeane-Weseloh, Wayne Renaud, Chip Weseloh, Gerry Wilke.

CALGARY

28 December; 40 observers in 9 parties, 69 miles on foot, 301 miles by car. 47 species, 12,903 individuals.

Participants: Elizabeth and Des Allen, Nicholas Allen, Peter Allen, Lois Bleakley, Hattie Boothman, Edith and Earl Brown, Rudi Butot, Ana Cairns, Francis Cunningham, Elizabeth Dawson-Grove, Rein DeWit, Sandy Denton, Bob Fisher, Ken Gardiner, Ian Gardiner, Willis Hall, Ian Halladay (compiler), Eleanor Hebron, Cedric Hitchon, David Jones, Ben Johnson, Derek Johnston, Diane Keats, Barbara Koncohrada, Bill Lang, Mary Lore, Anna Mazurek, Iris and Bob McKim, Jim Minty, Bill Monro, Jamey Podlubny, Carol and Bill Robinson, Gerald Seib, Barbara and Peter Sherrington, Don Stiles.

EDMONTON

21 December; 8:00 a.m. to 5:00 p.m.; clear, temperature 11°F to -2°F, calm; snow cover 3"; wild food - good, water partly open; 36 observers in 13 parties. 39 species, 10,113 individuals.

Participants: T. Barry, B. Bembridge (compiler), S. Bembridge, L. Bogaert, L. Borshevsky, R. Cromie, R. Cuthbertson, P. Demulder, R. Ebel, G. Greenlee, P. Greenlee, R. Heath, M. Hennie, B. Horton, H. Horton, E. Jones, S. Junkin, F. Kime, C. Kullman, R. Lister, M. McAdie, L. Matthews, R. Palindat, J. Park, L. Patterson, L. Pilorski, J. Retallack, B. Robinson, D. Robinson, D. Sept, D. Spalding, C. Thompson, T. Thormin, E. Tull, E. Wallace, A. Wiseley.

LETHBRIDGE

26 December; temperature -10°C; farmland, city, river valley, (willow and cottonwood trees); 9 observers. 31 species individuals. (Add: Sharp-shinned Hawk, Short-eared Owl, Hairy Woodpecker, Horned Lark, Golden-crowned Kinglet, Cedar Waxwing, Red Crossbill, Oregan Junco, Snow Bunting).

Participants: Joe Balla, John Eisenhauer, Betty Haig, Mike and Dorothy Harrap, Duncan Mackintosh, Michael O'Shea, Alan Roberts, Helen Schuler (compiler).

RED DEER

Not available at this time. This count seems to have gone astray in the mail. We hope to print it in the September AN.

SASKATOON LAKE

17 December; 40°F - 45°F, sunny with a few cloudy periods, strong westerly winds; average snow cover 10" - 11", 55° 12' 35" N 199° 05' W, Sections 6-72-8W5 and 1-72-7W5, 12 miles west of Grande Prairie on Hwy. 2; 2 observers in one party; party hours 2 (30 minutes by car, 1:30 hours by snowshoe); party miles 6 (2 on snowshoes, 4 by car); wooded areas, shrubby areas, open fields around buildings and stretches of Saskatoon and Little Lake, no open water. 6 species, 29 individuals.
(Add: Goshawk, Ruffed Grouse, Snowy Owl, Boreal Owl, Downy Woodpecker, Blue Jay, Common Raven, Bohemian Waxwing, Northern Shrike).

Participants: Louise Lavallee, Marcel Lavallee (compiler).

STETTLER

26December; -13 to -3°F, clear becoming cloudy and heavy overcast with southeast breeze; snow 30 cm. SW of Stettler to Big Knife Park, Battle River Power Plant. 6 observers, 3 feeding stations, and 100 party miles, 8 party hours. By car, snowshoes and skiis.
(Add: Ruffed Grouse, Sharp-tailed Grouse, Gray Partridge, Snowy Owl, Bohemian Waxwing, Purple Finch).

Participants: Emil Danneuald, Martha Kruger, Ron Kruger, Lloyd Lohr (compiler), Eric Smith and Karen Smith.

WILDLIFE RESERVE, WATER VALLEY

4 January. 9 parties, 19 observers. 27 species, 863 individuals.
(Add: 3 Tree Sparrows, 6 January).

Participants: D. Allen, D. Anderson, P. Anderson, D. Gregg, D. Hazlett, E. Hebron, M. Holmes, M. Johnston, S. Johnston, A. Matheson, C. Matheson, J. Podlubny, J. Shier, P. Shier, A. Slater, L. Slater, M. Smeeton, P. Stone, T. Stone.

ALBERTA CHRISTMAS BIRD COUNTS, 1975

	BANFF-CANMORE	BOW SUMMIT	CALG.	EDM.	LETH.	SASK. L.	STETTLER	WATER VALLEY
WESTERN GREBE					1			
MALLARD	105		2410	60	25		43	1
GREEN WINGED TEAL	4		1					
REDHEAD			1					
RING-NECKED DUCK				1				
COMMON GOLDENEYE	38		380	81	4			
BARROW'S GOLDENEYE			2					
BUFFLEHEAD			1					
COMMON MERGANSER			9	1	4			
GOSHAWK			1	1	1			
ROUGH-LEGGED HAWK			1		2			
GOLDEN EAGLE					5			
BALD EAGLE	1		6				1	
PRAIRIE FALCON					1			
MERLIN			4	4				1
HAWK SP.	1							
RUFFED GROUSE	1		1	3				2
WHT.-TAILED PTARMIGAN		9						
SHARP-TAILED GROUSE			7		5	1		5
RING-NECKED PHEASANT			4	3	31			
GRAY PARTRIDGE			183	26	26			12
COMMON SNIPE	2		1					
AM. AROCET					1			
ROCK DOVE			985	327	150		52	
GREAT HORNED OWL			2	6	8		3	1
SNOWY OWL			1		3			
GREAT GRAY OWL								2
PYGMY OWL	1							
OWL SP.	2							
BELTED KINGFISHER	1		2					
COMMON FLICKER			2	2	3			
PILEATED WOODPECKER			1					2
HAIRY WOODPECKER	2		7	12			5	4

	BANFF-CANMORE	BOW SUMMIT	CALG.	EDM.	LETH.	SASK. L.	STETTLER	WATER VALLEY
DOWNY WOODPECKER	1		31	48	4		5	10
BLK.-BACKED 3 TOED WOODPECKER				1				
NORTH 3-TOED WOODPECKER	4							
HORNED LARK								
GARY JAY	38	26						16
BLUE JAY				77	5		2	4
BLACK-BILLED MAGPIE	62		545	428	192	5	45	68
COMMON RAVEN	172	10			2			12
COMMON CROW	15		1					
CLARK'S NUTCRACKER	204	7						
BLK.-CAPPED CHICHADEE	74		350	556	17	6	36	75
MOUNTAIN CHICKADEE	36	17	2		1			2
BOREAL CHICKADEE	27	34	7	10				28
CHICKADEE SP.		25						
WHT.-BR. NUTHATCH				6				1
RED-BR. NUTHATCH	2		15	3	1			3
BROWN CREEPER	4	1	3	3	4			
AMER. DIPPER	21		6					2
AMER. ROBIN	1		1		4			
TOWNSEND'S SOLITAIRE	1							
GOLDEN-CR. KINGLET		2	11	11				
BOHEMIAN WAXWING	15		4947	6338	167			
CEDAR WAXWING			4	1				
NORTH. SHRIKE			1	1			1	1
COMMON STARLING	19		231	40	114		7	
HOUSE SPARROW			1484	464	907		90	56
EVENING GROSBEAK			501	702	35		18	
PINE GROSBEAK	10		97	200		7	16	3
HOARY REDPOLL	2		8	7				
COMMON REDPOLL	43		947	628	37	6	70	410
PINE SISKIN			1	9				
RED CROSSBILL	8	22	6	6				
WHT.-WINGED CROSSBILL	24		27	34			43	

	BANFF-CANMORE	BOW SUMMIT	CALG.	EDM.	LETH.	SASK. L.	STETTLER	WATER VALLEY
DARK-EYED JUNCO	2		4	8				2
WHT.-THROATED SPARROW				2				
TREE SPARROW					8			
LONGSPUR SP.	2							
SNOW BUNTING	35		61	2		4	20	97
SUMMARY								
# Species	36	9	47	39	31	6	16	27
# Individuals	1366	153	12903	10113	1768	29	415	863
# Observers	31	14	40	36	9	2	6	19

A CRITIQUE ON THE ABATEMENT OF MOSQUITOES

by Brad Smith
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INTRODUCTION

Recently Man's modification of the environment has mushroomed into widespread destruction, resulting in the current environmental crisis (Commoner 1971). The chemical "control" of mosquitoes is one of these modifications.

Total eradication of mosquitoes by chemical means cannot be achieved and should never be the goal of a control program. We must discriminate between control and kill. Control of mosquitoes is a population reduction method, employed only during periods when unusually high numbers of the insects prevail. The kill methods applied to mosquitoes occurs when population of the species is being continuously reduced. Fortunately, there now seems to be a return to the pre 1940's practice of controlling outbreaks rather than the insects (Hocking 1972). Thus, the control of mosquitoes was used only for remedial measures.

CHEMICALS AND THEIR EFFECTS

Many chemicals have been employed in the control of insects, but DDT has been especially popular. Frequently pests and their natural enemies have been killed together, with little regard for the biosphere and Man's place in it. This resulted in selection for chemical resistent insects. This selection has been so great that damage to food, fiber, and forest products today is said to be no less than it was before the advent of DDT (Provost 1972). Thus, we have gained nothing by polluting of the earth and its oceans in this manner.

After realizing the true effects of DDT treatment, it is surprizing that DDT is still the principal chemical used for insect control in many parts of the world. This is especially used in the campaign against malaria in which approximately 100 million pounds of

technical DDT was used in 1970 (Brown 1970).

A brief discription of the properties exhibited by the various chemicals is needed here to give a proper understanding of all the factors involved. Organochlorine compounds, such as DDT, are more stable than organophosphate or carbamate insecticides, but are also more persistent. Even though organochlorine compounds last longer, it has been shown that 40% of DDT when applied to a leaf surface, would volatilize into the atmosphere in 48 hours at 33° C with only a 2 mph wind (Que Hee, et al. in Saha 1972). Thus, most of the applied toxicant will volatilize from the target into the atmosphere within a matter of days.

Examples of organophosphate insecticides are Dursban M. Abate 4-E, and Altosid SR-10. Dursban is the most commonly used for mosquito abatement, such as in Calgary's past programs. For mosquito larviciding the effective dosage of Dursban is 0.05 lb/acre and for Abate it is 0.015 lb/acre, in comparison to Methoxychlor at 0.2 lb/acre (West 1972). Dursban kills many species of insects, and is thus not specific to mosquito larvae (Robins 1972). It is broken down by water and has a half-life of 29 to 1930 days in the soil (Menzie 1972).

Abate is effective against black fly, mosquito, and chironomid larvae, even against chlorinated hydrocarbon and phosphate resistant strains. It has a low toxicity to mammals, fish, birds, and beneficial aquatic insects since it does not effect cholinesterase activity (Cyanamid of Canada Ltd. n.d.). Most importantly, it does not build up in the food chain.

Another organophosphate is Altosid, which is an Insect Growth Regulator (IGR) for floodwater mosquitoes. This exhibits morphogenetic effects rather than direct toxic effects as do conventional insecticides. It has a half-life of less than 2 days and does not build up in the food chain (Zoecin Corp. 1974). Detailed studies showed very little effect on 35 species of non-target insects, fish, birds, and mammals that were tested (Miura & Takahashi 1973). Both Altosid and Abate have no harmful concentration of residues in soils or water.

In contrast to DDT, most of the organophosphate and carbamate insecticides are rapidly metabolized by the body. These metabolites are usually far less toxic than the parent compound, and are not stored in the animal's body to any great extent.

Flit ML0 is one of the safest known insecticides for fish, mosquito preditors, man, and wildlife. It is a light mineral oil that evaporates after 1-2 days, and kills the mosquito larvae by physically blocking the respiratory tubes (Brust 1974). An application of this to breeding sites would cause only minimal disruption to the ecosystem.

These chemicals are sometimes effective in controlling mosquitoes, but in the process they tend to cause adverse effects on non-target organisms. A non-target organism is usually understood to mean an organism unintentionally destroyed. These organisms often play a key role in the local ecology, frequently forming vital links in the food chain. This was demonstrated by many species of fish in the Victoria Nile (Uganda) who were specialized feeders on insects. They died when DDT wiped out their food source of mosquito larvae (Colbert 1958). On the other side of the coin, it is only fair to point our that DDT treatment for the same mosquito larvae in the Saskatchewan River, showed no obvious adverse effect on fish following aerial spraying (Arnason et al. 1949). DDT was used for Simulium larvae control in the Saskatchewan River for more than 20 years, at the end of which negligible DDT residues were found in several species of fish (Fredeen et al. 1971).

Dursban does not seem to have any significant effect on the aquatic invertebrate community. However, a thick slime formed over the bed of an experimental slough in Calgary. This was a Phycomycete fungus, indicating high eutrophication (Scholefield 1974). These sprayed sloughs showed lower dissolved O_2 content and had a much higher biological oxygen demand. This change in water chemistry could have detrimental effects on the macro and micro fauna.

The immediate lethal effects of chemicals are easily determined, but sublethal effects of pesticides are more difficult to measure than acute toxic effects. Even thorough laboratory experiments on the chronic toxicity may not detect long term effects. This is due

to the stable conditions of lab life, in which the consequences of sublethal poisoning may not be serious. In contrast, in the animal's natural habitat, a slight loss in efficiency or an alternation in behaviour may have serious consequences. So, from an ecological pointof view sublethal effects are of great significance, but at present are rarely being thoroughly investigated.

CONTROL METHODS

A) CHEMICAL CONTROL

Methods for the dispersal of these chemical agents add to environmental problems. Adulticiding is carried out by two basic methods of thermal fogging and Ultra Low Volume (ULV) mist application. Fogging during the day in Winnipeg parks gave no positive results (Thorsteinson 1974). For this reason residential fogging is usually done late at night, when the air is calm and warm. At this time most people are in for the night, with windows open so that a cool breeze can blow in, allowing the fog to enter. The harmful effects this fog has on humans of all ages is presently unknown. The fog can be blocked by obstructions like houses, hedges, and even cars, which can shelter the mosquitoes until the insecticide is dispersed by the wind. Fogging thus has only limited success and serves primarily for public appeasement. If this questionable methods was to be dropped from the Edmonton program, a total of $1,660.46 would be saved and this could be redirected into other city expenditures (Evans 1974).

Recently much research has been done on ULV mist application. This appears to be more efficient and economical than conventional fogging, with a 89-99% mortality rate possible. This may have the advantage of not causing a traffic hazard since it is invisible, and does not release an annoying odor. However, the health hazard to the innocent bypassers who cannot detect the invisible spray is unknown.

Larviciding is widely used and is the most effective method of chemical dispersal for mosquitoes. The City of Calgary employs this method, using Dursban as the larvicide. This can be applied by aerial spraying or manual spraying. The former is used in

unpopulated areas for economic reasons, as it costs only $0.85/acre compared to $3.50/acre for manual application (Robins 1972). The City of Edmonton also uses this method, but their control problems are increased by wet summers. This was adaquately demonstrated by the large uncontrolled mosquito populations that dominated central Alberta in 1973. For the huge control area of 151, 680 acres, spraying was mainly aerial. However, many breeding sites were left untreated because of poor co-operation from various locations, especially the industrial complexes. Helicopters could not be used because of high chimney stacks and overhead wiring, and high fences and locked gates kept out ground crews. Unsprayed ponds can re-establish the mosquito populations back in other sectors, thus, more treatments would be necessary.

When applying the larvicide, care must be taken to follow the Department of Agriculture and the manufacturers directions. In May 1972 Glenmore Pond (Calgary), then continuous with Glenmore Reservoir, was sprayed in excess (Robins 1972), pond life was almost destroyed, and the chemical gained access to the city's water supply.

Larviciding, when used properly, is a proven method of reducing the mosquito population as a whole. Adulticiding methods are not dependable and frequently all of the dispersed insecticide is wasted. If chemical means must be used for mosquito control, then only the larviciding method should be considered.

B) BIOLOGICAL CONTROL

Considerable research into practical alternative methods for mosquito control is currently in progress, notably in the use of biological control. A very important premise of biological control is that few insects achieve pest status in the presence of natural enemies with which they have evolved (Bay 1972). Exceptions occur when man has altered the environment through agriculture, irrigation, and organic pollution. The potential of biological control has been recognized, even to the extent that an annotated bibliography has been compiled of pathogens, parasites and predators of many arthropods (Jenkins 1964). This book lists more than 600 pathogens and parasites known to cause mortality or morbidity, and more than 900 predators. Not all of these are applicable to

Canadian biting flies, as only a few of the 370 Canadian species are hosts to known pathogens and parasites (Chapman 1972). The infecting organisms include protozoans (principally Microsporida), fungi (principally Coelomomyces), viruses, and nematodes. Of 14 families of nematodes associated with insects, only the Mermithidae parasitize mosquitoes. Galloway (1972) showed that these nematodes could be economically acceptable. The drawbacks of using nematodes is that all the breeding sites must be previously recorded, so that they can be treated immediately after hatching. This must be done, as the success of infecting the host decreases as the larvae grows. Other problems consist of storing the living nematode eggs and in timing hatches of large numbers.

An important predator of mosquito larvae is the water beetle Colymbetes fuscus, which feeds exclusively on the larvae and can account for a total morality during all aquatic stages of approximately 87% (Iversen 1971).

One of the most desirable and powerful types of biological control is genetic control of mosquitoes. This is acheived by hereditary manipulations which suppress mosquito populations. Since this methods is autocidal, nothing alien is introduced into the ecological niche of the pest population (Rai 1972). Recent genetic studies with the mosquito Culex pipiens prompted the development of a more efficient control method. A system can now be devised with any desired degree of sterility up to 100% (Laven 1973). A partially sterile strain is obtained by the translocation of part of a chromosome between flies (Laven 1974).

Hormonal control of mosquito populations is one of the more interesting and unique control methods available. This method is based on the fact that ecdysone and juvenile hormone play important factors in pupation of mosquitoes. By regulating these hormones, the pupa can be altered so that eclosion does not occur. Juvenile hormone is the most effective, and recently chemically similar molecules that causes the same effect have been mimicked. These are called juvenile hormone analogs. They have high physiological activity, low mammalian and fish toxicity, are rapidly biodegradable, and are economically competitive with conventional pesticides (Strong 1972). Although now at an early stage of development, hormonal control

might be the answer to control of mosquitoes in the near future.

The personal protection approach can meet personal standards of control with virtually no environmental threats. Mosquito control research should be steered in this direction, particularly towards the use of repellents, protective clothing, tents and other shelters, along with a psychological analysis approach of over reaction to mosquitoes with hopes of establishing a more tolerant attitude towards them (Hudson 1973). The reluctance of people to rub a little innocuous repellent over thier bodies instead of contaminating their immediate environment is unfortunate, and "might be worthy of the attention of a psychologist" (Hocking 1972). City dwellers are now responsible for the greatest increase in consumption of pesticides, just for home and garden uses. In fact, the dollar value of Canadian sales of small aerosol cans of pesticides used by home owners in urban and suburban areas, now exceeds 25% of the dollar value of bulk for agricultural purposes (Bowen 1974).

Prevailing climatic conditions might offer a final control method. This is often overlooked by personnel in the mosquito control program. For example, Calgary's place in the Chinook belt results in a high natural mortality rate of local mosquitoes due to unpredictable weather (Pritchard in Scholefield 1973; Robins 1972).

MOSQUITOES AS PESTS

Mosquitoes are generally considered in Canada as a problem to Man directly. They are also a problem to people indirectly, such as with the cattle industry here in Alberta. The economic problems arise here from mosquito mating swarms, like those south of Botha in 1973 that were seen to be to 1½ miles long and twenty feet in height. At that time it was calculated that four such outbreaks would result in a loss to the cattle industry of $31,023,384.00 (Dixon 1974).

Mosquito control might be deemed necessary for economic reasons in central Alberta, but is definitely not needed in the vicinity of Calgary. In fact mosquito control may be harmful since mosquitoes are known to benefit Man. The increase of deaths caused by coronary

thrombosis in North America strongly parallels the increase in mosquito control programs, perhaps because mosquitoes donate anti-coagulants in exchange for a blood meal and thus protect us from this disease (Van Handel 1962). We may have traded malaria for coronary thrombosis.

To some the lack of annoyance caused by mosquitoes, and the suppression of insect pests that defoliate trees, shrubs, and otherwise degrade the appearance of our environment, are considered to improve the quality of life. To others the use of these pesticides threatens the quality of life. The degree to which the former attitude is emphasized is demonstrated in Manitoba where the mosquito control program is carried out not for economic reasons, but because mosquitoes are an annoyance to humans (Smith 1974). It is also interesting to note that even many of the target insects of spray programs are innocuous, including 7% of the mosquito species in the Calgary area (Robins 1972).

CONCLUSION

For both economical and health reasons the urban areas of Canada do not need mosquito control programs. The major line of attack needed here, is to relate to the general public what is involved in mosquito abatement, biology, and problems, in order to increase their tolerance towards mosquitoes. If people are still not satisfied, then hopefully they will use the personal protection methods. If control measures must be undertaken, then the non-chemical methods mentioned earlier should be utilized. In urban areas breeding sites could be drained or filled to permanently eliminate the source of the problem, but this will destroy many other organisms as well. If spraying must be done this should be performed only at the minimal level with one of the least toxic chemicals. The work crews used should be licensed and trained in larviciding methods at an approved institution, such as the Olds Agricultural College. However, the best method of all, is still to have no method. After all, what is a "better way for man to become corporeal united to the biosphere, than to have his blood scattered over the landscape in the form of eggs from a thousand flies" (Provost 1972).

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HIGHLIGHTS OF WINTER, 1975 - 1976, BIRDS -- SOUTHERN ALBERTA

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This past winter was mostly one of mild temperatures and little snow, and large stretches of the Bow River in the Calgary area were open for most of the season. There were few waterfowl highlights. One swan was seen flying over the Bow River on January 10, while two pairs of Barrow's Goldeneye stayed the winter, as did a Redhead and a Bufflehead. The occasional Green-winged Teal was reported from both Calgary and Banff. Reports of a Mallard-Pintail hybrid and of a Mallard-Wigeon were received for Calgary. Possibly these were one and the same hybrid. Reported Common Merganser numbers were very low this winter on the Bow.

At least six Bald Eagles were seen along the Bow River in Calgary this winter, two adults and four immatures. Golden Eagles were reported as follows: Calgary - one immature on December 27, Dunshale - one on January 17 and February 29. A Cooper's Hawk was reported from Calgary on December 19, while reports of single Merlins came in from Baintree on December 6, Calgary on January 11 and February 11, and Shepard on December 29. A Peregrine Falcon was reported from Cochrane on December 2, and others from Calgary on January 13 and March 7. A Goshawk was seen at Canmore on January 30, and one was also reported from Calgary on December 28.

Great Horned Owl reports came in from several places: Bottrel - one on January 14, Lyalta - one on January 17, Rockyford - a pair on January 18, and from Cochrane - one on January 31 and two on February 1. A Great Grey Owl was reported from the Water Valley area on

January 4, and another from Lost Lake on January 3. Snowy Owl sightings were drastically down from last year, which must have been a peak year. A Saw-whet Owl was reported from Strathmore on January 19, and a Pygmy Owl from the Banff-Canmore area on December 27.

One, or possibly two Belted Kingfishers stayed the winter in Calgary. Blue Jays were reported from numerous places, one regularly from September 15 to October 14 in Calgary, four from Dogpound area on January 4, six to eight from Bragg Creek on January 17 and two from High River on January 18. One Stellar's Jay was reported from Seebe on January 18.

Black-capped Chickadees were seen on the Calgary Christmas count in large numbers, 350 were reported by forty observers in nine parties on December 28. Reports of single Mountain Chichadees came in from Calgary for January and February, while two were seen at Seebe on January 18 and two also at Lake Louise on January 2. Boreal Chickadees were somewhat more abundant as is indicated on the Christmas counts: seven on December 28 in Calgary, 28 between Cochrane and Water Valley on January 4, and 27 in the Banff-Canmore corridor on December 27. In the last area the trend was reversed as the participants came up with 36 Mountain Chickadees also. White-breasted Nuthatches were scarce as usual; one spent the winter near Dogpound, while the only two other reports came from Calgary, three on February 7 and four on February 10. Red-breasted Nuthatches were rather abundant this winter, on the other hand, fifteen from Calgary along on December 28 (Christmas Count).

American Dippers were also well represented, on the count days Banff-Canmore reported 21, Calgary six, Water Valley two. The occasional American Robin and Townsend's Solitaire reports came in from the Calgary and Banff areas. If the winter of 1971-72 is considered the year of the Pine Grosbeak in Calgary, then the 1975-76 winter must have been the year of the Evening Grosbeak. These birds were very conspicuous at many times and in many places of the city. Red Crossbills were reported twice this winter, 50 in January in Calgary and one near Cochrane on February 1. White-winged Crossbills were more numerous with reports of 20 to 25 birds seen on January 11 and 25, and February 15 in Calgary. From one to four Hoary Redpolls were reported from Calgary for most of the winter, while flocks of up to

300 Common Redpolls were seen in such places as Calgary, Cochrane, Lyalta, Baintree, Delacour, Aldersyde and Lethbridge. One to four Tree Sparrows were seen near Cochrane from November to early February. Snow Buntings were seen in flocks of 500 to 2000 by the end of February from Delacour to Baintree.

More detailed tabulations can be found in the winter issues of the Calgary Field Naturalist.

FAUNAL OBSERVATIONS FOR NORTH-CENTRAL ALBERTA: WINTER 1975-76

Compiled by John H. Acorn
14416 - 78 Avenue, Edmonton

BIRDS

No loons, grebes, or waterfowl were reported for the region.

HAWKS

A Goshawk was seen near Edson (6 Dec - REG) and another was heard calling at the Banff dump on 27 Dec (GRAE, RD). Only two eagles were reported: a Golden Eagle near Hilda (20 Jan - RB, BW) and another near Pincher Creek (18 Feb - NDC). An immature Peregrine Falcon showed up on 25 Jan near Bruce (RP) and a Prairie Falcon was seen near Hilda (21 Jan - RB, BW). Two Merlins were reported, one from the Bruce-Vegreville area (25 Jan - RP) and one from Calgary (16 Dec - DR).

GROUSE PARTRIDGE

Two Spruce Grouse were seen near Fort Assiniboine (20 Dec - REG); single reports came from Edson (21 Dec - REG, AS) and Niton Junction (20 Jan - DVW, JK). Two Ruffed Grouse were also reported, from Edson (6 Dec - REG). Sightings of Sharp-tailed Grouse were reported from Edson (21 Dec - REG, AS) and Niton Junction (20 Jan - DVW, JK). Nine White-tailed Ptarmigan were seen near Lake Louise on 2 Jan (DVW, LMW) and another two were sighted near Jasper (28 Feb - HC). Gray

Partridge were seen near Botha (7 Dec - GPG) and Vegreville (14 Dec - FB).

OWLS

Our soon-to-be provincial bird, the Great Horned Owl, was reported nine times this winter. Reports were from Bashaw, Ferrintosh and New Norway (all 7 Dec - GPG), Willingdon (15 Dec - EB), Daysland and Strome (21 Dec - GJM), Vegreville (4 Jan - FB), Andrew (17 Feb - EB), and Keephills (29 Feb - RP). Scattered reports of Snowy Owls came in, most of them representing single birds. Reports were from Edmonton to Calgary and eastward from Bassano (six owls sighted, 20 Dec - DVW, LMW), Andrew (9, 24 Feb - EB), Penhold (24 Feb - RP) and Calgary (13, 22 Feb - DVW). Great Grey Owls were also well reported; sightings made at Carrot Creek (16 Dec - LB, RB; 17 Dec - LB), Winfield (3 Jan - CDT), and Niton Junction (19 Jan - PR, DVW, JK). Hawk Owls showed up near Fort Assiniboine (20 Dec - REG) and Edson (21 Dec - REG, AS). One Saw-whet Owl was at Hilda on 18 Jan (RB, BW) and a Pygmy Owl was observed by DVW, LMW, WER in Banff on 2 Jan. Are there any other sightings, unreported so far?

WOODPECKERS, LARK

Pileated Woodpeckers were at Nevis (7 Dec - GPG) and Edson (6 Feb - RP). The only other woodpecker reported was a male Downy Woodpecker at Niton Junction (20 Jan - DVW, JK). Horned Larks were present in numbers ranging from 4 to 12 at Calgary (22 Feb - DVW, LMW), Penhold (24 Feb - RP) and Vegreville (27 Feb - EB).

CORVIDS - THRUSHES

The only report of a Blue Jay came from Niton Junction on 20 Jan (DVW, JK). Gray Jays were plentiful, however, and were seen at Banff, Edson, Lake Louise, Niton Junction, and from Nojack to Whitecourt (dates were from 21 Dec to 6 Feb). Black-billed Magpie were as numerous as usual, and showed up near Banff, Niton Junction, Olds, Penhold and Red Deer. Clark's Nutcrackers were reported from Banff (18, 25 Dec - GRAE, SBE; 3 Jan - DVW) and Lake Louise (2 Jan - DVW, LMW, WER). Ravens were seen from 6 Dec to 10 Feb at Banff, Edson, Niton Junction, Smoky Lake, Winfield, and from Wabamun to Whitecourt. Common Crows were seen at Banff, wintering (?) (26-28 Dec - GRAE,

SBE) and at McMahon Stadium in Calgary (15 Dec - BMF). Black-capped Chichadees were present at Banff, Keephills, Niton Junction, Penhold, Red Deer and Whitecourt (reports from 23 Dec to 25 Feb). GRAE and SBE saw good numbers of Mountain Chickadees at Banff on 25-28 Dec. Boreal Chickadees were also seen at Banff (25-28 Dec - GRAE, SBE) as well as at Lake Louise (2 Jan - WER) and Niton Junction (24 Jan - DVW, LMW, RP, RC, BS). Banff was also the place to see American Dippers, as records came from the Bow River (DVW, LMW) and the Spray River (26 Dec - GRAE). Only one American Robin was unfortunate enough to brave our winter, and was seen at Vermilion Lake on 26 Dec (GRAE, SBE) Townsend's Solitaire were seen at Banff (25, 26 Dec - GRAE) and Jasper (26 Feb - HC).

HOUSE SPARROW TO WAXWINGS

The only House Sparrows reported were 300 in Banff on 28 Dec (GRAE, SBE). Common Starlings were also present in Banff, and reports of between 10 and 31 birds were received (27 Dec - GRAE, RD; 28 Dec - GRAE, SBE) and 3 Jan (DVW). One Northern Shrike was seen at Vegreville on 21 Dec (FB). Bohemian Waxwings were seen at Andrew (15 Dec - EB, flock of 8), Vegreville (18 Dec - FB, flock of 25-30) and Two Hills (21 Jan - EB, flock of 50-60).

FRINGILLIDS

Evening Grosbeaks were reported from Vegreville on 7 Dec (FB). Purple Finches were present in small numbers at Erskine from 25 Oct to 22 Dec (LL). Pine Grosbeaks were seen near Red Deer and Edson on 23 Dec (RP) and 6 Dec (REG) respectively, Common Redpoll were very plentiful this winter, and reports came from Banff (28 Dec - GRAE, SBE), Edson (6 Dec - REG), Olds (19 Dec - RP), Penhold (24-29 Feb - RP), Red Deer (23 Dec - RP) and Vegreville (11 Dec - FB). The Banff area turned up good numbers of Red Crossbill on 27 and 28 Dec (GRAE, SBE, RD) and 2 Jan (DVW, LMW, WER). A single Red Crossbill was seen at Red Deer on 23 Dec (RP). White-winged Crossbill were present at Banff also (3 Jan - DVW, LMW) as well as at Olds (19 Dec - RP) and Niton Junction (20 Jan - DVW, JK). Snow Buntings were present in numbers ranging from 3 to 300 at Edson (6 Dec - REG), Entwistle (24 Jan - DVW, LMW, RP, RC, BS), Olds (18 Dec - RP), Penhold (25 Feb - RP), Red Deer (13 Feb - DVW) and Vegreville (6 Jan - EB).

Contributors:

Ludo Bogaert (LB)
Ed Brimacombe (EB)
Family Brimacombe (FB)
Rod Burns (RB)
Hugh Campbell (HC)
Rob Churchill (RC)
Nelson & Dot Crowell (NDC)
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Gwen & Jack McBride (GJM)
R. Palindat (RP)
Dave Reid (DR)
W.E. Renaud (WER)
Pat Robinson (PR)
A.R. Smith (AS)
Bob Sutherland (BS)
Carin & Dave Thomas (CDT)
D.V. Weseloh (DVW)
Linda McKeane Weseloh (LMW)
Bill Wynnyk (BW)

FAUNAL OBSERVATIONS FOR NORTH-CENTRAL ALBERTA: SUMMER-FALL 1975

Compiled by John H. Acorn

FISH

From 19 July to 23 October, 1975, John Kristensen and Alec Courtorielle caught and identified 29,456 fish at Birch River (B), Chenal des Quatre Fourches (C), Riviere des Rochers (little Rapdis) (R), Prairie River (P), Lake Clarie (Cl), and Mamawi Lake (M), in the Fort Chipewyan area. The following list represents their catch.

Lake Whitefish (Coregonus clupeaformis) C,Cl,M
Northern Pike (Esox lucius) C,R,P,Cl,M
Goldeye (Hiodon alosoides) B,C,R,P,Cl,M
Flathead Chub (Platygobio gracilis) C,Cl,M
Emerald Shiner (Notropis atherinoides) B,C,R,P,Cl,M
Spottail Shiner (Notropis hudsonius) B,C,R,P,Cl,M
Longnose Sucker (Catostomus catostomus) C,M
White Sucker (Catostomus commersoni) C,R,M
Burbot (Lota lota) C,M

Trout-perch (Percopsis omiscomaycus) C,P,CI,M
Ninespine Stickleback (Pungitius pungitius) C,R,P,CI,M
Walleye (Stizostedion vitreum) C,M

Admittedly this is a rather hard act to follow. However, I would very much like to see more Alberta naturalists sending in their fish records. Reports of angling catches would be appreciated. I personally catch most of my fish with a butterfly net, so please don't feel that you have to be an expert icthyologist to help the cause.

OBSERVATIONS OF MIGRATING EAGLES

by Patrick J. Paul, Canadian Wildlife Service
10025 Jasper Avenue, Edmonton

While working for the Alberta Provincial Government, I was following movements of Rocky Mountain Bighorn Sheep and hiked daily in the vicinity of Cadomin Mountain several miles southeast of Cadomin, Alberta.

On 21 March, 1976, I observed a pair of Golden Eagles hunting at approximately 6500 feet just east of Cadomin Mountain and then work their way gradually westward. Although I was in the area for several hours more, no further birds were seen.

On 22 March, 1976, I was again on the mountain. From 1000 to 1400 hours, I counted 106 eagles passing westward over Cadomin Mountain between 7500 and 10,000 feet, with the former altitude being more common. Early in the morning I observed what I assumed to be a pair of eagles hunting, but after climbing up the mountain I decided that this was unlikely and what I had seen was probably an additional 15 eagles. Positive identification was made on approximately 25 birds and these were all adult Golden Eagles (Aquila chrysaetos), which leads me to believe that all observed were of the same species.

On the three days following the 22nd of March, lone and pairs of eagles were sighted, but they were infrequent and sporadic.

A BRIEF REPORT ON ALBERTA RAPTOR BANDING

by Ken Trann
R.R. #2, Kingman, Alberta

At a recent meeting in Edmonton of the informally-organized and unofficially-named Alberta Raptor Banders, it was suggested that an article on our activities might be of interest to other Alberta naturalists.

Since 1970 we have banded a total of 5,321 birds of prey, under subpermits issued by the Canadian Wildlife Service and co-ordinated by Richard Eyfe and Harry Armbruster. A number of the participants are employees of the C.W.S. but many are volunteers: Rod Burns, Keith Campbell, Ron Gallant, R.E. Gehlert*, Edgar R. Jones*, Ross Lein*, Brian Nicolai, Chris Rees, Richard Svrcek, Bruce Treichel, and myself. Many of the participants have specialized in a particular species: Merlin, Prairie Falcon, Ferruginous Hawk, American Kestrel, Snowy Owl, Hawk Owl, and Short-eared Owl, some of which have been extensively researched. A few of the people involved have published papers, and some are in the process of doing the same. (The Table will illustrate volume and variety, but this is not the exclusive aim of this group. Behavioural studies and life-histories are also important).

Information can be obtained from every band return, but some information is especially fascinating: a Snowy Owl banded on January 16/72 near Morinville was recovered 3 years later in Ontario; a Kestrel banded near Leduc on April 23/67 was retrapped near Leduc on July 15/71, $4\frac{1}{2}$ years later; a Short-eared Owl banded as a nestling near Daysland in 1974, was recovered on January 1/75 in California; and there are many more.

We hope interested individuals will contact us, either to offer information, or to receive it, or even, perhaps, to participate. (A phone call to Harry Armbruster will lend you to the people involved. Ph. C.W.S. - 425-6860).

* Master permit-holders

	1970	1971	1972	1973	1974	1975	TOTAL
Goshawk	0	3	37	7	3	4	54
Sharp-shinned Hawk	0	0	9	2	2	1	14
Cooper's Hawk	0	4	18	12	19	7	60
Red-Tailed Hawk	26	3	128	37	26	60	280
Broad-Winged Hawk	2	3	20	1	0	0	26
Swainson's Hawk	0	12	128	89	37	164	430
Marsh Hawk	19	0	38	6	8	10	81
Ferruginous Hawk	67	139	218	80	79	139	722
Osprey	0	0	0	0	4	11	15
Golden Eagle	18	6	22	24	32	23	125
Bald Eagle	0	0	0	2	5	25	32
Prairie Falcon	120	177	215	284	317	334	1447
Merlin	89	139	83	101	182	105	699
Am. Kestrel	53	165	62	34	45	40	399
Snowy Owl	0	18	36	44	37	11	146
Great Horned Owl	24	38	64	39	9	80	254
Hawk Owl	16	27	11	12	20	0	86
Great Grey Owl	6	12	14	1	26	0	59
Long-Eared Owl	7	0	109	10	13	6	145
Short-Eared Owl	34	14	94	0	90	0	232
Boreal Owl	0	0	1	0	1	0	2
Saw-whet Owl	0	1	3	8	0	1	13
TOTAL -	481	761	1320	793	945	1021	5321

PYGMY OWL TAKES HOUSE SPARROW AT BANFF FEEDER

by D.V. Weseloh, Linda McKeane Weseloh & W.E. Renaud
Provincial Museum and Archives of Alberta
and P.O. Box 327, Rosetown, Saskatchewan

During the winter of 1975/76 it was well-known that a Pygmy Owl, Glaucidium gnoma, was making frequent appearances at a feeder at 223 Otter Street, in Banff. The owl visited the feeder, not to feed on cereal foods put out by the feeder's owner, but rather to prey on House Sparrows, Passer domesticus, and possibly other small birds attracted to the seeds and bread crumbs in the feeder. While the three of us were in Banff for the Bow Summit Christmas Bird Count, we had an opportunity to observe the Pygmy Owl at the feeding station. This brief note is an account of the behavioural events which we observed.

Late in the afternoon (1620 hrs.) of 2 January, 1976, WER arrived at the feeder in front of 223 Otter Street. Although being told by Mrs. Sheila Douglas, keeper of the feeder, that the owl usually appeared between 1200 and 1500 hrs., WER located it almost immediately. It was sitting amongst the middle-inner branches of a spruce tree, about 15 feet above the ground and perhaps 30 feet from the main feeder. The owl's silhouette and frequent movements among the branches made locating it relatively easy.

At 1626 hrs. DVW and LMW arrived. For about eight minutes the three of us observed the owl in the late afternoon's waning light as the bird sat in the dimly illuminated inner branches. At 1632 hrs. the owl flew from the spruce directly across the street and settled near the top of an approximately 50 foot high Lodgepole Pine. It sat there for a few minutes, then fluttered to an adjacent pine. In flight, and in the straggly pine tree, its characteristics could be more clearly discerned: it was about the size of a starling, Sturnus vulgaris, though stockier; it flew much like a shrike, lanius spp., i.e. with a very rapid wing beat; and was heavily streaked beneath with a contrasting partial band resembling large darkish eyes, at the back of its neck. The owl remained in the stand of 3 or 4 pines until 1636 hrs.

It may be significant that by this time the day's sunlight had dwindled sufficiently so that small numbers of starlings were beginning to roost in a nearby conifer. Also, few, if any, House Sparrows remained actively feeding at the feeder and presumably they too had gone to roost. In Edmonton, observations by DWV and LMW have shown that House Sparrows have nearly always departed from back yard feeders for their evening roosting site by the last half-hour of daylight and frequently by the last hour of daylight.

From the pines, the owl flew back to the spruce where we had originally located it. It landed on one of the inner branches, less than 10 feet above the ground. We were able to walk immediately beneath it without flushing it or, apparently, harassing it. At this point DVW and LMW were observing the owl from beneath as WER watched it from the road about 20 feet distance. As we watched, the owl periodically fluttered or jumped from one branch to another, much like a passerine, though more slowly. It seemed to stay among the densest boughs. At this point DVW joined WER to gain a better view and had just resumed watching when LMW exclaimed "Its got a sparrow!" From somewhere, before our very eyes, the owl had grabbed a sparrow and was shaking it, administering the coup d' grace; the time was 1640 hrs. Needless to say, we looked at one another in amazement and bewilderment. We'd had the owl under direct and constant observation for the four minute period it was in the spruce and we had missed the actual "pounce" upon its selected prey!

The owl shook the sparrow for what seemed like several seconds. It then remained at the spot for several more seconds and finally flew, noticeably belaboured, with the sparrow in its talons, across the street to about the 25 foot level of an aspen tree. The owl remained there for about a minute, without paying noticeable attention to the load in its talons and then flew off farther southeast and out of sight.

It was perplexing to have the owl right in front of us and miss the final pounce, but we assume there must have been a roosting sparrow sitting in the boughs of the spruce; the owl may have been looking for just such an individual as it moved from branch to branch. If this were the case, the final pounce would have been from one branch directly onto the roosting sparrow and hence we would not have

been able to distinguish the final death pounce from the owl's normal movements from branch to branch.

One of us (DVW) was present at the feeder the next morning (3 January) from 0806 hrs. (prior to first light) to about 0900 hrs., but the Pygmy Owl could not be located. Large numbers (50+) of Clark's Nutcrackers, Nucifraga columbiana, however, obviously dispersing from their nearby overnight roost, did arrive at and remained in the vicinity of the feeder. The presence of large, aggressive Corvids may well inhibit the hunting behaviour of a smaller predatory bird like the Pygmy Owl. Sparrows, too, came to the feeder during the observation period.

Provincial Museum of Alberta
Natural History Contribution No. 35

NOTES ON ROOSTING HABITS OF GRAY-CROWNED ROSY FINCHES

by Wayne R. Nordstrom and James R. Butler
Parks Planning Branch
Commonwealth Bldg., 9912 - 106 Street, Edmonton

The Gray-crowned Rosy Finch (Leucosticte tephrocotis tephrocotis), is a well-known summer inhabitant of high alpine habitats throughout western North America, ranging from the Sierras in the south northwards to Alaska and islands in the Bering Sea. During the winter months this species disperses or migrates to lower elevations to avoid adversities of climate (Godfrey 1966).

Year-round roosting habits of rosy finches generally involve the use of crevices and nooks in cliffs and rocks wherever sheltered conditions prevail (King and Wales 1964). An interesting roosting situation was noted recently in southern Alberta along the Milk River on February 12, 1976. There, several flocks of Gray-crowned Rosy Finches were repeatedly observed during evening hours settling to roost within the urn-shaped mud nests of Cliff Swallows (Petrochelidon pyrrhonota hypopolia). Location of the nests combined with the narrow aperture

to the nest posed considerable entrance problems that required elaborate aerial maneuverability on behalf of the finches. Several observations were made of individuals that failed on their entrance attempts and repeated efforts were required to gain access to the nesting cavity. Wing structure and flight habits of these typical fringillids usually do not lend themselves to this type of activity.

No more than one individual was observed to occupy a single nest at any one time.

Heat economy of wintering finches in northern latitudes such as Alberta is of considerable physiologic importance. Scarcity of available winter food demands a high economy of body heat in the interest of energy conservation. The design and material construction of Cliff Swallow nests undoubtedly serves to trap and retain any existing heat energy.

King and Wales (1964) state that rosy finches "avert much of potential thermal stress of their winter environment by persistently utilizing nocturnal roosts which provide overhead cover, and thus heat loss is greatly reduced." The potential for conserving heat energy as expressed by the winter roosting habits of rosy finches thus becomes an important micro-climatic feature which may significantly contribute to the overall wintering success of this species in adverse climatic conditions.

Similar observations regarding this roosting habit of rosy finches have been recorded previously in the literature (French 1959; King and Wales 1964; Leffingwell and Maclay 1931; and Shaw 1936). James Salt (pers. comm.) observed on August 30 1974, near Cadomin, Alberta, a Gray-crowned Rosy Finch utilizing as an evening roost site the abandoned nest of a Dipper (Cinclus mexicanus unicolor). It is assumed that the same principle of heat economy would also apply to this situation.

Further observations and future studies concerning this matter would no doubt provide important biophysical data in addition to contributing an important segment of our understanding of the natural history of the species.

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BIRD NOTES FROM LETHBRIDGE

by Helen Graham
518 - 28 Street, South, Lethbridge

The fall of 1975 into winter '76 has been a most rewarding season for backyard feeders and observation.

Migration seemed to drag on well into October when two Western Meadowlarks were sighted at Todd Creek on October 17. On October 16 in my own city garden, I observed a small flock of Juncos both Oregon and Slate-colored races, a Tree Sparrow, one Harris' Sparrow, a lone Myrtle (yellow-rumped) warbler, one Oven-bird and one varied thrush, the individuals remaining from several days to a week. About the same time a small group of waxwings appeared, some looking very much like immature birds. The first flock of Bohemian Waxwings appeared about November 10 and have swelled to a flock of three to five hundred. Cedar Waxwings have remained over winter,

joining the larger flocks of birds from the north. They are much smaller, yellow underneath instead of grey and white under the tail instead of chestnut, more cinnamon above than grey. On April 12, 30 to 40 waxwings still linger. One closely observed had definitely the markings and color of a cedar.

Bird feeders were put out November 10. Regular visitors were three Downey Woodpeckers, two yellow-shafted (Northern) Flickers, two Red-breasted Nuthatches, still seen daily. Two Mountain Chickadees appeared in February and remained until the end of March, several Golden-crowned Kinglets appeared November 26 for a few days - one reappeared February 28 and remained until April 8. Three Slate-colored (Dark-eyed) Juncos spent a few hours in the garden on January 3, appearing frequently until March, indicating that they too must have spent the winter here. A spruce with a heavy crop of cones harbors a small flock of White-winged Crossbills (12-15) and a somewhat larger flock of Common Redpolls, December 31st and infrequently thereafter.

As many as five Blue Jays visit the feeder daily, and on mild days splash about in the bird bath. As this has been a mild, dry winter, birds, especially waxwings, flock to the bird bath for moisture so necessary to their survival. Three or four Blue Jays have remained in the city, and have been seen gathering nesting material.

On November 19 several Evening Grosbeaks appeared, lured no doubt by an extra heavy crop of maple seeds. Finding the larger feeder stocked with sunflower seeds, their numbers swelled to 30 or 40 of these beautiful birds who feed regularly each day, disappearing about 4:00 p.m. A predominance of females exists, as is also observed in the flock of redpolls. "The heavy beak of the grosbeak, which is the color of ivory, turns a deep apple green at the onset of the mating season" (page 112 "The Lovely and the Wild" by Louise de Kirelene Lawrence 1968). This I have been able to observe first hand as the winter flock of grosbeaks are still here.

Robins first appeared March 17, although one was sighted previously in February in company with a flock of waxwings, no doubt having stayed over winter. In early April a Great Horned Owl spent an hour in a tree, not a hundred yards from my window.

The greatest reward in this wonderful game of bird watching is the thrill of the unexpected, the first sighting of a Brown Creeper, the positive identification of a Savannah Sparrow or the flash of the male Myrtle Warbler among the almost bare tree tops in early May. So keep a sharp look-out!

LETTER TO THE EDITOR

In regards to the last paragraph on page 42 of the March Alberta Naturalist (e.g. Oring Auk 90: 652 - ponderosa pine near Rocky Mountain House???), I would like to report a lone ponderosa pine in the area of the Carbondale River beyond the former ranger station, this tree is enclosed with a waist-high fence of flimsy scantling. We have also noted two separate groups of ponderosa pine on either side of a trail, on the A Seven ranch, leading to Camp Creek. These look to be quite old trees.

Sincerely

Helen Graham
518 - 28 Street, South
Lethbridge, Alberta
April 13, 1976
T1J 3S9

PROVINCIAL MUSEUM NEWS FOR NATURALISTS (3)

by David A.E. Spalding
Head Curator of Natural History

Previous News appeared in Alberta Naturalist 5(3): 96 and 6(1): 45

NATURALISTS' GUIDE

After a long history of slow development through FAN and PMA, the Naturalists' Guide to Alberta is taking a major step forward. Funds are at last available to permit the Museum to produce a first edition of the guide, using existing and new input from naturalists, as well as extensive information available in PMA files and elsewhere. A contractor will be selected, who will be approaching naturalist groups as soon as possible for further input on their areas. The text will be finished during the current financial year, and editing and publication should follow during 1977 if at all possible.

NATURE ART

Albertans will have first crack at Nature Art '76 this year, as the exhibit comes to the PMA straight after the opening at The Canadian Nature Federation Conference. Expected dates are 15th June to 15th July. Shows will apparently only appear every two years after this one. The Owl exhibit mentioned in a previous "News" will open about 2nd October, and run to the end of the year. Detailed information will be sent to all naturalists on the PMA list (revised and issued recently). The exhibit of art will be called "A Parliament of Owls" (using the old collective term), and the possibility of sending it to other centres in the province is being explored.

Tentative plans for next year include a retrospective show of the work of Museum habitat artist Ralph Carson, and a one woman show of work by Lethbridge artist Helene White.

OTHER FEATURE EXHIBITS

Plans for the Museum's feature galleries during the summer include several items of interest to naturalists. A special exhibit of natural, cut and carved precious and semi-precious stones from the Riveredge collection in Calgary will be shown from June - August. An exhibit on the Buffalo to be seen from July to August, will include paintings and other items related to the vanished herds. A travelling exhibit, Journey into the Silent Land, shows many early photographs taken of the west by the Geological Survey.

Plans for 1977 are already taking shape, and include (in addition to the nature art exhibits mentioned above), a special feature on Gulls, and a look at the growing museum collections.

FIELDWORK 1976

For the first time, several museum programs are undertaking a co-operative study of a major region, in this case the Sand River map sheet, running between Lac La Biche and Cold Lake, and north from St. Paul. Selected because museum staff have done no previous work there, the area looks to be of considerable interest. Existing published and unpublished resources are being searched, and fieldwork has already commenced in the area. A full report will follow in due course. It would be appreciated if naturalists having unpublished information on the region would get in touch with the appropriate member of staff.

Other projects in 1976 include a southern Alberta hunt for the "holy turnip" of native lore, censuses of gull colonies, studies of bats, and hunts for marine fossils of the dinosaur era in the south-eastern corner of the province.

NATURALISTS' BOOKSHELF (19)

BIRDS OF THE ROSETOWN-BIGGAR DISTRICT, SASKATCHEWAN by Wayne E. Renaud and Don H. Renaud. Special Publication No. 9, Saskatchewan Natural History Society, Box 1121, Regina, Saskatchewan. 121 pp. $4.00.

Saskatchewan is unique in Canadian ornithology for its high ratio of local avifaunal publications per naturalist population. This book is the latest addition to this growing list (at least two more are in preparation), and in my opinion is one of the best to date.

The publication was timed to make the book available for the August 1975 meeting of the American Ornithologisis' Union in Winnipeg, and

I suspect this caused some haste, as the proof-reading is rather sloppy. This negative feature is particularly evident in the "Literature Cited", where at least five references cited in the text are not listed, two are printed out of order, and another (Belcher 1961) is listed correctly, but given the wrong date (1960) at least twice in the text (pp. 17 and 115). This is the only major fault of the book, and probably of little consequence to most readers.

"Birds of the Rosetown-Biggar District" consists of a foreword by C. Stuart Houston, an introduction, acknowledgements, a description of "The Area," a section on "Treatment and Terms," another on "Birding in the Area," a long portion on "The Birds," mostly taken up by species accounts (pp. 31-116), Literature Cited, and finally an index.

The section under title of "The Area" is an excellent capsule account of the vegetation, topography, landscape, climate and relevant history of the area covered by the book. This section is enhanced by two maps and a diagram, which together put the area in perspective. The first map shows the study area in relation to the rest of Saskatchewan, and particularly in relation to the area covered by J. Frank Roy's "Birds of the Elbow" and the Saskatoon area to be covered in a future publication. The second map is a more detailed view of the area on which four letters are placed to correspond with vertical relief profiles shown in the diagram. Four photographs are also included. These were evidently intended to appear on two separately numbered plates, as two are labelled "Figure 1" and the other two "Figure 2." Figures 1 and 2 are also used for the maps.

Potential authors of any regional natural history work would do well to consult this book for its section on "Treatments and Terms." The authors have carefully defined their terms in concise, easily consulted tables. Too often such terms are only vaguely defined or buried somewhere in the text, but the Renauds have left us neither guessing nor searching.

The short feature on "Birding in the Area" adds substantially to the value of the book, espcially for the casual visitor, who is presented with information on three "hot spots," with maps to guide his way.

The bulk of the book is, of course, taken up by "The Birds." This

section begins with a list of known and suspected breeding birds, followed by Christmas Count data from 1969 to 1974. The species accounts constitute the remainder of the text. In most cases, these are far more than mere listings of records, dates, or status with such pertinent information as habitat, changes in abundance, behaviour, migration chronology, and where pertinent status in surrounding areas, Saskatchewan, or the prairies. On the whole, these accounts appear to be thorough, and are both concise and interesting, a feat not easily accomplished. My only quibble with the species accounts is that frequently first seen or last seen spring and fall dates are given without any indication of general peaks or usual first appearance. But this is by no means true of all the accounts and is probably merely a reflection of the data available at present.

This book should be in the hands of anyone seriously considering the publication of a local faunal or floral work, as it is an excellent model for such projects. No serious ornithologist in the prairie provinces will be without a copy.

Martin K. McNicholl
Department of Zoology,
University of Alberta.

NATURALISTS' BOOKSHELF (20)

THE WESTERN SWAN HILLS

The Western Swan Hills Study (38 pictures, 53 pages) is the fourth in a series prepared and published by the Alberta Wilderness Association. This is the first study conducted in an area away fron the East Slopes ofthe Rockies. Joining in this publication was the Edmonton Chapter of National and Provincial Parks Associaton of Canada. The recommendation is that an extensive Recreational Wilderness should be designated, with a Provincial Park proposed for Freeman Lake and the establishment of a small ecological reserve for long term scientific study on Goose Mountain.

Reasons for these recommendations suggested are: Climatically, high rainfall and low fire frequency has allowed virgin timber stands over 300 years old to remain. Plant growth is diverse, some characteristic of B.C.'s wet belts and many northern and mountain plants reach their southern or eastern limits here. Oil exploitation has abused some areas, but most seismic lines are regrowing and there still is abundant refuge for large mammals, particularly moose, wolves and bears; the grizzly being a famous large local race. Proximity to Edmonton suggests recreational use will increase.

Geology and soils are discussed thoroughly. Vegetation under headings: Upland and Lowland Types is explained extensively. Under Animals, Swan Hills Grizzly and Moose are treated in considerable detail. The remainder are listed under Appendix II.

Knowledge of birds is limited. An annotated check-list is included in Appendix III, and fish species are similarly listed in Appendix IV. A brief history of the Goose Mountain IBP site and the present Freeman Lake Wildlife Reserve points out the need for further protection and establishment of proper boundaries. Resource utilization deals with the impact of the logging industry, and the future for it and theoil and gas industry, and there are also notes on sand and gravel extraction. One map shows the Regional location; a second shows the proposed recreational wilderness and provincial park in detail. Also included is a topographic map, one showing the vegetation types, another the petroleum and natural gas rights and finally one of current land use. Several blank pages scattered through the publication allow a student or researcher to make further notes.

On the whole, this publication is well done and well presented with a minimum of errors other than occasional spelling mistakes. No page numbers on the Table of Contents is a minor annoyance and some pictures do not have a caption.

For those interested in furthering their knowledge of our wilderness areas and providing information for those striving to protect these for the future, this book is a must. It will also probably stimulate your curiosity enough to send you up there for your own observation. It sells for $3.00 from Alberta Wilderness Association, Box 6398, Station D, CALGARY T2P 2E1 or Edmonton Chapter, National and

Provincial Parks Association of Canada, 13715 - 101 Avenue, EDMONTON.

Lloyd Lohr
Box 1414
Stettler, Alberta

NATURALISTS' BOOKSHELF (21)

Review of Interaction Between Migratory Birds and Athabasca Oil Sands Tailings Ponds: Report and Recommendations

Alberta Environmental Conservation Authority. Edmonton, Alberta

In the autumn of 1974 it was brought to the national eye in a rather dramatic fashion that anywhere from eight to 2000 birds had died due to contact with oil on industrial tailings ponds in the region of the Athabasca Oil Sands. In December of that year, Alberta's Environmental Conservation Authority announced that "it had an obligation under Section 7 of its Act to investigate the matter ..." The present report is the findings of that investigation.

The report is not particularly voluminous. Its 74 pages are made up of 14 pages of glossy photographs, maps and transparencies, 7 pages of Chapter and Discussion titles, 22 totally blank pages and 31 pages of text and references. The photographic plates are interesting and provide an accurate representation of what the various tailings ponds were like in that area during 1974 and early 1975. The specific discussion points are: 1) Geography of the Athabasca Oil Sands, 2) Petroleum Industry Activities, 3) Use of the Area by Waterfowl, 4) The Hazard of Tailings Ponds to Migratory Birds, 5) Possible Methods of Eliminating or Mitigating the Tailings Pond Hazard, 6) Current and Future Research Programs, 7) Observations of Bird Mortality on Tailings Ponds in 1974; The Mirgratory Birds Convention Act, 8) Observations Made During the Authority's 1975 Field Trips to the Athabasca Oil Sands; Some Preliminary Findings of the Canadian

Wildlife Service's 1975 Waterfowl Surveys.

Based on information available to it, the Authority reached the following conclusions:

1. Eleven migratory birds are known to have been trapped in 1974 by surface oil on the small Syncrude pilot plant tailings pond, which covered approximately three acres. The much-decomposed carcasses of an additional 20 to 30 birds were found in the immediate vicinity of this pond in 1974. It is probable that many or all of these birds died due to contact with oil, and that additional deaths had occurred of which no evidence remained. This tailings pond has been in existence since 1959 and was abandoned in 1967.

2. The Great Canadian Oil Sands lease includes two large tailings ponds totalling 470 acres which contain surface oil. The remains of 78 birds were found on the main tailings pond (400 acres in area) or along its shoreline in the late summer and fall of 1974. The main tailings pond has been in existence since 1967.

3. Physical evidence of 109 to 119 bird deaths were therefore found in 1974 on or in the immediate vicinity of tailings ponds on the Syncrude and G.C.O.S. leases. Though some of these birds may have died prior to 1974, this number would represent the minimum number of bird casualties from this source, since evidence of additional casualties may have rested elsewhere, or had disappeared prior to that time.

4. The Syncrude commercial bitumen extraction facility will entail the construction of a very large tailings pond (11.5 sq. miles). The Shell, Petrofina et al. and Home-Alminex commercial surface mining operations, as presently proposed, will also involve the creation of large tailings ponds. The current level of bitumen extraction efficiency indicates that appreciable quantities of unrecovered bitumen will be directed to these ponds. The large sizes of these ponds, the presence of oil on their surfaces and possibly also the high temperature and extraction chemcial content of the tailings fluid pose a potentially serious hazard to migratory birds.

5. Industry and government recognize the hazard to migratory birds and industry has basically accepted responsibility to eliminate or mitigate it as operations proceed. Steps are presently being taken to accomplish this objective. There is no indication yet as to what success might attend these efforts.

6. Insufficient attention has been given by industry and government to the federal statute that "no person shall deposit or permit the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds."

The Authority's Recommendations on specific topics were as follows:

1. That the threat to migratory birds posed by tailings ponds associated with present and future surface mining operations on the Athabasca Oil Sands be recognized as serious by government and industry.

2. That layers of oily material on the surface of the tailings ponds be considered by regulatory agencies and industry as an undesirable condition and that priority be given to eliminating this particular hazard to birds.

3. That the amount of oily material going to the tailings ponds be reduced by every possible means.

4. That monitoring of the surface of tailings ponds for the presence of oil layers be established as a company operating and reporting routine under government supervision.

5. That techniques and equipment for oil spill containment and recovery be used for confining oily materials to as small an area as possible and for removing these materials from the surface of the pond.

6. That an active tailings pond be designated as a research area in which government and industry would jointly test methods of surface oil containment and removal, monitor for the presence of migratory birds and study the effects on birds of all components and properties of the tailings fluid; also that the pond be exempted from the provisions of the Migratory Birds Convention Act, on an annual review basis, for the duration of

these studies. O.S.E.R.P. is suggested as an appropriate body to seek implementation of this recommendation.

7. That the surface area of tailings ponds be minimized by every available means.

8. That research work on the development and testing of bird deterrent devices be continued but that major emphasis and reliance be placed on the elimination of oily materials from the surfaces of tailings ponds.

9. That a small body of water be set aside as a research pond to check the practicality of coloured water as a deterrent.

10. That the Alberta Government, in co-operation with the oil industry, develop a program to keep up to date on the latest methods and equipment for cleaning and rehabilitating birds which have come in contact with oil, and for ensuring ready availability ofthe required facilities where a hazard of this type exists.

11. That the area occupied by experimental or pilot plant pond installations be reclaimed as soon as active use ceases, in such a manner as to eliminate any hazard to wildlife.

12. That the Environment Conservation Authority continue to maintain an overview of Oil Sands development, and conduct such special investigations and inquiries on aspects of it that from time to time appear necessary.

13. That the Environment Conservation Authority be requested by government to prepare for and hold comprehensive public hearings at an appropriate time on all environmental aspects of the development of the Oil Sands.

Speaking as one who was on the Athabasca Oil Sands during the summer of1974 when dead birds were being discovered on many of the areas pertinent to this investigation, including the Syncrude pilot plant tailing pond, as one who was initially contacted by the ECA during the early stages of the investigation but later dropped from their roster upon expressing my feelings, and as one who has at least the basic understanding and expertise to evaluate bird-human interaction problems, I received the report with mixed feelings. The facts and figures which are stated appear to be correct. One has the feeling, however, that either there is much more known than what is stated or

that the investigation was of the most cursorial nature. Such a feeling may arise from the fairly widely known fact that private consultants are examining the problem as well and, to my knowledge, none or only little of their data have been included in the ECA's report.

I found it extremely irritating that the ECA stopped short of making firm recommendations on or even discussing what procedures best deter birds from using tailings ponds but may be this was not among their objectives. My personal feelings are that the Government should seriously consider forcing the oil companies to cover their entire tailings ponds! If hundreds of thousands of dollars can be spent simply on trucks to haul processed and/or unprocessed tar sand, then a similar amount should be afforded for the protection of the birdlife which uses the area. A floating mesh or covering of common chicken wire would serve the purpose beautifully.

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Edmonton

NATURALISTS' BOOKSHELF (22)

Calgary's Natural Areas: A Popular Guide. Edited by Peter Sherrington. A Centennial Project by the Calgary Field Naturalists' Society. viii + 184 pp. 1975. (Calgary Field Naturalists' Society, P.O. Box 981, Calgary T2P 2R4. $3.75 + 0.25 handling and postage).

This is a delightful little guide book that is recommended to all Calgarians, Albertans and visitors who want to know about the natural history of the area. It is organized in two parts. Part I, the "Flora and Fauna," contains a wealth of information on the more common and interesting algae, lichens, mosses, mushrooms, other fungi and non-flowering plants, flowering plants, insects, birds, mammals, amphibians, reptiles and fish, to be found in the Calgary area. Only the mites and spiders and other less conspicuous arthropods are left our of the natural history spectrum covered. This part alone will

tell the reader much about Calgary's natural history and it is satisfying to find it all under one cover. Useful identification guides are given after each section of Part I.

Part II describes twelve natural areas in the city which have been the main study areas of the Natural Areas Committee of the Calgary Field Naturalists' Society. Some detailed information on these areas was published in two earlier publications of the Society: "Five Natural Areas of the City of Calgary" and "Natural Areas 1973." These natural areas cover a wide range of habitats to be found in Calgary from riverine forests to prairie plateau. Each area is provided with a useful map showing the main vegetation types, or past and present uses of the area. Detailed location information, trails and facilities are mentioned for each, along with a brief history of the location. The authors discuss the flowers and common insects, birds and mammals likely to be seen in each area at various seasons of the year.

The guide, which is of a handy pocket size, is enhanced by 54 color photos of natural areas and prominent species. There are also line drawings by four artists on almost every page of the text which add to the appeal and usefulness of the guide. The book is a major club effort as can be seen from the "Acknowledgements." Nineteen authors contributed to the book, seven covering the general flora and fauna sections and eleven covering the selected natural areas. Three other authors contributed to the "Introduction" section which includes a discussion of the climate, geology, natural communities and human influences, and which sets the scene for Parts I and II. Despite the large number of contributors, the Editor, Peter Sherrington, is to be commended for maintaining such an evenness of treatment throughout the book. Few faults can be found with the book; the reference to John Palliser's travels in the area give his dates rather than the publication date of the book, and on page 51 it should have been mentioned that the reference to Salt and Wilk is to the second revised edition. The naturalist who is interested in checklists of known species of an area will find the lists in the 40-page Appendix most useful. Lists are given for all the major groups of plants and animals and often the relative occurrence of the species is given.

Our Federation's Patron, Grant MacEwan, in the forward to the book states that "there can be no greater challenge ... in any year than that of making men and women, young and old, more aware of the wonders of the Natural Household and their place and responsibilities in it." The Calgary Field Naturalists' Society are to be commended for producing this book with the financial assistance of three industrial companies, as a Centennial Project for the City of Calgary to make Calgarians and others aware of their natural heritage. The Federation and the Provincial Museum of Alberta look forward to their input in producing a "Naturalists' Guide to Alberta." With the guide "Calgary's Natural Areas" the Calgary Field Naturalists' Society are certainly ahead of most other naturalist groups in producing a valuable naturalist guide.

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RECENT PUBLICATIONS ON THE NATURAL HISTORY OF ALBERTA (16):

A SPECIAL COMPILATION OF LESSER KNOWN REPORTS

Compiled by James W. Case

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Review of interaction between migratory birds and Athabasca Oil Sands tailings ponds: report and recommendations. Edmonton, Sept. 1975. 43p. photos (col.) maps. (Alberta. Sessional Paper 522/75). Tabled Nov. 13, 1975 by the Hon. D.J. Russell. (See review, this issue, by D.V. Weseloh).

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FAN NEWS, REPORTS, PROJECTS

Notes from the Editor - A successful spring meeting of FAN was held in Edmonton and vicinity on the May long weekend. Hopefully a full report from the Secretary will be available for the September

issue of the Alberta Naturalist. Resolutions passed will also be published at that time. I have listed below a few highlights. See also the reports by President Broadbent in the Conservation News and Comments section.

1. New Clubs - Two new clubs will hopefully soon become corporate members of FAN. These are at High River and Grande Prairie. Both have been tentatively accepted by the Board. Welcome to both!

2. Naturalists' Guide - See Lloyd Lohr's report, following, and Dave Spalding's report from the museum earlier in this issue.

3. Reports by Standing Committees - Those available follow. I somehow neglected to obtain a copy of the Land Use Committee Report by Dorothy Broadbent, so will print this in the September issue. There were no reports submitted for A.N. by the By-Laws, Publicity, Environmental Education, or Endangered Species Committees. The By-Laws committee is considering implementation of a Life Membership category. This was approved in principle by the Board. The Publicity committee's report consisted largely of publicity obtained for the May meeting and art show. Note that the publicity and publications committees have a joint report below. Joy Finlay continues to work hard on Environmental Education. This committee hopes to revive the Teacher's Corner column in the Alberta Naturalist. Jim Minty hopes to have a detailed report on Endangered Species for the next meeting.

4. Future Meetings - See Lloyd Lohr's report on the summer meeting, following. The September meeting will be held in Calgary, September 25-26, details to appear later. The annual meeting will be on February 12 or 12-13. The May weekend meeting will be May 21-23, summer meeting (1977) July 16-17; and Fall 1977 meeting September 17-18. Places have been proposed for all, but not yet finalized.

5. Art Show - The First Alberta Nature Art Exhibition was held in Edmonton Nature Centre, May 22 to May 30, 1976. The show, entitled, "A Brush With Nature" was opened by President, Dorothy Broadbent at noon on May 22. The first attempt at such a show by the Federation can only be considered an unqualified

success! This was an open show, and included 145 exhibits by 55 artists, including two juniors from Medicine Hat.

6. FAN has finally been invited to serve on the Fish and Wildlife Advisory Committee of the Provincial Government. Former President Dr. John M. Powell is our representative.

7. Crest - The Edmonton Natural History Club is looking into the possibility of a Crest to be sold by FAN.

8. Controversy! - A controversy developed over collecting of specimens. This resulted in the formation of an ad hoc committee to attempt to prepare a rational policy for adoption by FAN. The committee consists of Dr. Charles D. Bird, Joy Finlay, Martin K. McNicholl, Jim Minty, and Dr. John M. Powell, a group with rather divergent viewpoints, so a consensus will be an interesting challenge.

M.K.M.

F.A.N. SUMMER OUTING

By Lloyd Lohr

July 17-18, Saturday & Sunday
At BIG KNIFE Provincial Park on the Battle River

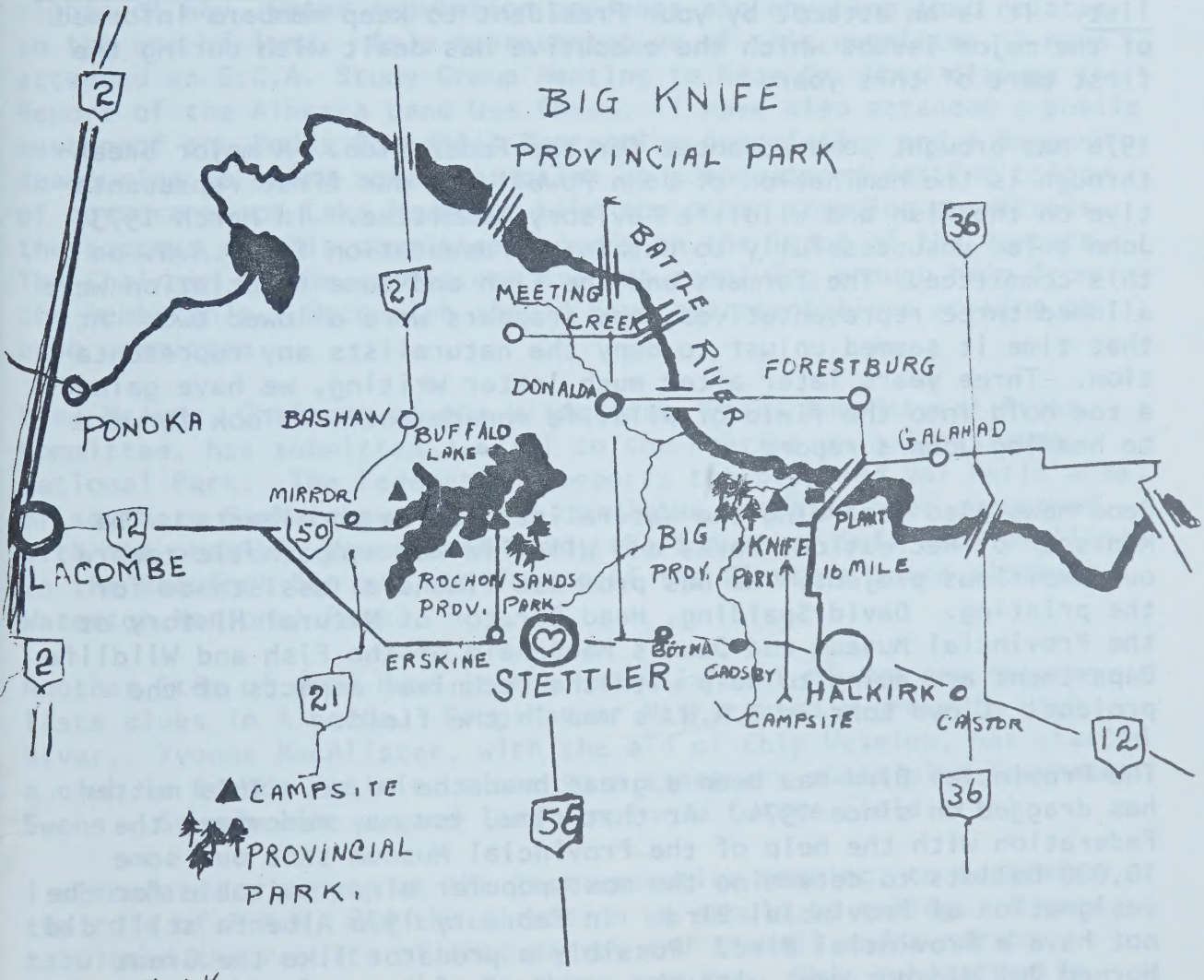
(See map following)

Plenty of tenting and trailer space (no hook-ups), wading pool and playgrounds for children.

Hiking and riding trails (bring your horse); canoeing: numerous road crossings on the Battle River upstream for embarkation. Varied plant, bird and mammal habitat: from river flats to hill country, from Big Knife creek with it's beavers, through the strip mine leases to Paint Earth Coulees with their badlands. A guided tour of the Manalta Coal Co. strip mining and reclamation operations and the

Forestburg Power plant.

Saturday evening campfire entertainment; no meetings, no business, just a real Naturalists' pleasure outing.



PRESIDENT'S PAGE

by Dorothy Broadbent
R.R. #4, Red Deer

This column is something a little different for the Alberta Naturalist. It is an attempt by your President to keep members informed of the major issues which the executive has dealt with during the first part of this year.

1976 has brought some advances for the Federation. A major breakthrough is the nomination of John Powell, as our first representative on the Fish and Wildlife Advisory Committee. In March 1973, John tried unsuccessfully to obtain representation for F.A.N. on this committee. The farmers and the Fish and Game Association were allowed three representatives, the trappers were allowed two. At that time it seemed unjust to deny the naturalists any representation. Three years later after much letter writing, we have gained a toe hold into the field of wildlife management. I look forward to hearing John's report.

Good news also regarding the Naturalists' Guide to Alberta. The Minister of Recreation, Parks and Wildlife was sympathetic toward our ambitious project. He has promised financial assistance for the printing. David Spalding, Head Curator of Natural History at the Provincial Museum and Dennis MacDonald of the Fish and Wildlife Department are going to help with the technical aspects of the project. Lloyd Lohr is F.A.N.'s man in the field.

The Provincial Bird has been a great headache to me. This matter has dragged on since 1974. At that time, you may remember, the Federation with the help of the Provincial Museum sent out some 10,000 ballots to determine the most popular bird, suitable for the designation of Provincial Bird. In February 1976 Alberta still did not have a Provincial Bird. Possibly a predator like the Great Horned Owl did not meet with the approval of some of the more influential people in Edmonton, even though it was the choice of those returning ballots. I began writing letters in February, several to the appropriate Ministers and even one to the whole Legislature.

The result so far, is a reply from the Hon. Horst Schmid, requesting our patience and indicating that he is investigating the possibility of amending the Alberta Emblems Act during the fall session.

At the February executive meeting I set up another committee, A Land Use Committee with myself as chairman. This committee will deal with issues such as, strip mining, road allowances, railway rights of way, water regulation projects and anything that relates to the use of land. As a representative of this committee, I have attended an E.C.A. Study Group Meeting to hear Dr. Wood discuss the Report of the Alberta Land Use Forum. I have also attended a public meetingof the Dodds Roundhill Protective Association and I am endeavouring to bring some protection to a threatened nesting colony of cormorants on Lake Newell. Like the other standing committees, the success of this committee depends on the input of the members. The Chairmen of the committees are not receiving enough help from the membership. Each club should have representatives working on each committee.

Mike McIvor, Chairman of the Wilderness, Parks and Natural Areas Committee, has submitted a brief to the Hearing on a Grasslands National Park. The Federation supports the proposed Val Marie area of southern Saskatchewan. This committee has also been concerned with the possible Howse Pass Road, the future of Suffield, drilling in the Beaufort Sea and the future of the Birdseye Ranch close to Waterton National Park.

Another item of good news is the establishment of two new naturalists clubs in Alberta. Greg Wagner has started a group in High River. Yvonne MacAlister, with the aid of Chip Weseloh, has started a club in Grande Prairie, close to a sanctuary containing Trumpeter Swans. Sounds like a good location for a future field trip!

I circulated a survey at the last executive meeting, to determine the role of F.A.N. and the direction we should be taking. I have tabulated the results of that survey and I shall endeavour to implement policy according to those results. This tabulation is printed below as a report of the Finance Committee.

RESOLUTIONS PASSED AT THE 18TH REGULAR MEETING OF FAN BOARD OF DIRECTORS, FEBRUARY 14, 1976, CALGARY

1. Be it resolved that FAN is opposed to any extension of the David Thompson Highway through the Howse Pass.

2. Be it resolved that the Minister of the Environment retain his authority under the Land Surface Conservation and Reclamation Act over the drilling of wells, as well as the construction of pipelines and their operation and abandonment on the Suffield Military Reserve, instead of delegating that authority to the Energy and Resources Conservation Board.

3. Whereas the proposed development of the Strathcona area of Calgary for a population of 50,000 people has many aspects such as attendant freeway construction with massive destruction of adjoining established natural area parks (Edworthy and Weasel-head Area of Glenmore Park) and the loss of natural zones and wildlife on the escarpments of Strathcona, therefore be it resolved that the Federation of Alberta Naturalists is opposed to this development in its present form.

4. Be it resolved that part of the $2,200,000.00 Heritage Trust Fund be made available for improvement of wildlife habitat.

5. The Federation of Alberta Naturalists requests the Provincial Government to recognize that undeveloped road allowances are public property that should not be leased or closed. They should be allowed to revert to their natural state of supporting natural vegetation, and thus provide a small portion of wildlife habitat throughout the settled regions of the province.

6. Be it resolved that the Federation of Alberta Naturalists requests the Department of the Environment to acquire a minimum of 1,200 acres of wildlife habitat within each township of Alberta, and to accelerate the purchase of lands for wildlife habitat.

7. Be it resolved that unused railways and waterways be preserved to provide wildlife habitat.

ALBERTA NATURALIST GUIDE

REPORT FOR SPRING MEETING, MAY 1976

Dear Fellow Naturalists:

The Naturalist Guide for Alberta is rapidly gaining momentum as the idea is catching on and accumulating interest and offers of assistance.

Since the February meeting, material has come in for 7 more areas. We have data now from Grande Prairie south to the border right across the province. However we will probably have to go back to our members to fill in the gaps.

F.A.N. has budgeted for finances to start the project. The Department of Recreation, Parks and Wildlife through the Outdoor Recreation Branch has offered financial assistance. Technical assistance in whatever way we need is on offer from the Education and Extension Branch of the Fish and Wildlife Division of the Recreation, Parks and Wildlife Department.

I had planned to meet with David Spalding in March and get together with our material and ideas. However I never made it until April 2nd and found David was in Ottawa. I left my accumulated material at his office. He had these xeroxed and returned to me by mail, notifying Dorothy Broadbent and I that he had a definite figure in the budget for a contract to prepare the first edition. He also reported that he was asking for an assistant under the STEP Program to help. Latest word was that we would meet during the Spring meeting with our committee and go over the proposed outline.

Suggested format was basically using the 50 map sheets of the National Topographic grid as a framework. We also have the loan of a copy of "A Naturalist Guide for Ontario" from Geoff Holroyd BVN for a pattern.

Hopefully soon we should be able to see some tangible results.

Lloyd Lohr, Chairman

EDITOR'S NOTE: See also Dave Spalding's report from the Provincial Museum.

FINANCE COMMITTEE REPORT, 4 MAY 1976

I received good response to my questionnaire to Directors dealing with the role of FAN both new and in the future. Some people felt strongly that FAN should be primarily a naturalist group, others felt equally strongly that our main concern should be with conservation.

I have analysed the replies and listed the results in descending order of importance.

ROLE OF F.A.N.

1. Major naturalist group in Alberta.
2. Major conservationist group in Alberta.
3. Political lobbyist group.
4. Outdoor enjoyment.
5. Research.
6. Education.
7. A forum for the exchange of ideas and information.
8. A means whereby corporate members can unite when the need arises.

LONG TERM GOALS

Most people agreed with my list of goals, some thought they were all equally important. I have left the list basically the same although I have changed number one.

1. To remain the major naturalist group in Alberta.
2. To become the major conservationist group in this Province.
3. To unite all like-minded groups.
4. To establish a strong base of member clubs.
5. To provide a unified voice for all members.

6. To publish a widely read interesting, influential, outspoken, factual magazine, appealing to the amateur and professional naturalist and the layman.
7. Employ a paid secretary and staff to implement the policy set by the President and Board of Directors.
8. Employ paid experts when needed to deal with specific issues such as: conservation, pollution, resource extraction, water management, endangered species, wilderness areas, publicity, finance, education, wildlife management and any other concerns.

PLAN OF ACTION

Everyone was in agreement with this.

1. Establish a policy.
2. List priorities.
3. Decide ways of implementing policy.
4. Accept outside help from business interests with no strings attached.
5. The Alberta Naturalist should be supported by the membership and by paid advertisements.

POLICY IMMEDIATE NEEDS

Most people agreed with this, there were comments that articles about these concerns should be appearing in the Alberta Naturalist.

1. East Slopes.
2. Land Use.
3. Use of Crown Lands.
4. Resource extraction.
5. Endangered species.
6. Provincial Parks.
7. Ecological reserves.
8. Water resources.
9. Road allowances.
10. Railway abandonment.

- Dorothy Broadbent, Chairman

WILDERNESS PARKS AND NATURAL AREAS COMMITTEE COMMENT

On the importance of writing letters
or: Politicians count their mail.

There is an unfortunate, although certainly understandable tendency on the part of most people interested in natural history and conservation, to let the various environmental organizations and action groups do their talking for them. But is that enough, or is it good enough? I think not. In fact there are two very real problems associated with that approach.

The first problem is that no matter how concerned and committed the leaders of your organizations are, they are bound by the same limitations as you; lack of time, lack of knowledge, inability to find the right words at the right time, confusion over the complexity and multitude of issues; in short, they are volunteers trying to keep pace with a rapidly changing world. They need, want and deserve your support and your criticism. Without your help and advice it is impossible for them to stay on top of every issue as it occurs. And remember, they are acting on your behalf.

Secondly, if you were a politician, would you leap into action if you received a letter from the executive of an organization representing 500 people? Or would you be more likely to sit up and take notice if you received 500 letters? The answer is obvious. A letter from your organization is 1 letter. A letter from you makes 2; if your friend writes one it is three and so on.

So, let your views be known about the things that matter to you. And don't hesitate because you feel you do not completely understand an issue. Chances are nobody does, including politicians. Let your beliefs be obvious. Do not forget that decisions are being made every day, affecting our lives and out land, on the basis of certain assumptions. Assumptions as to the importance of material progress; assumption that technology has all the answers; assumptions that we do not all share; and our own stands must be made clear.

- Mike McIvor, Chairman

STANDING COMMITTEE CHAIRMAN'S REPORT: RESEARCH

C. Bird - May 22, 1976

The ongoing FAN Phenology Project is now well under way for 1976. Many individuals have been contributing information but more observations continue to be needed. It really is important that we receive dates, especially the first, of blooming of all of our key species from all of the various areas of the province.

Results to date have been partially analyzed for the area within a 50 mile radius of the City of Calgary. They indicate that 1976 has experienced an unusually early spring. The accompanying table shows that up to the present the present year is 4 weeks ahead of last year, 2 weeks ahead of the year before that, and over a week ahead of 1973. Observations and written comments from correspondents in other areas all indicate that the early spring has been a province-wide phenomenon.

Scientific Name	First 73 Date	First 74 Date	First 75 Date	First 76 Date	Average days 1976 is ahead (+) or behind (-) the earlier year 1973	1974	1975
Anemone patens	March 16	April 6	May 4	March 31	- 15	+ 7	+ 35
Populus tremuloides	March 24	April 13	May 11	April 2	- 11	+ 9	+ 37
Phlox hoodii	April 8	April 18	May 11	April 4	- 6	+ 11	+ 37
Potentilla concinna	April 7	April 14	May 11	April 7	- 5	+ 10	+ 36
Shepherdia canadensis	April 18	April 15	May 18	April 11	- 5	+ 9	+ 36
Populus balsamifera	May 1	April 25	May 18	April 12	- 1	+ 9	+ 36
Thermopsis rhombifolia	May 1	April 20	May 19	April 12	+ 2	+ 9	+ 36
Arctostaphylos uva-ursi	April 20	April 28	May 18	April 13	+ 2	+ 10	+ 36
Ribes oxyacanthoides	May 1	April 23	May 22	April 13	+ 4	+ 10	+ 36
Androsace septentrionalis	April 24	April 17	May 18	April 14	+ 5	+ 9	+ 36
Corydalis aurea	May 13	May 19	May 22	April 14	+ 8	+ 12	+ 36
Geum triflorum	May 8	April 29	May 16	April 17	+ 9	+ 12	+ 36
Viola adunca	April 15	April 28	May 18	April 17	+ 8	+ 12	+ 35
Fragaria virginiana	May 3	May 5	May 24	April 18	+ 9	+ 12	+ 36
Ranunculus rhomboideus	April 20	April 18	May 11	April 18	+ 8	+ 11	+ 35
Viola nuttallii	May 2	May 4	May 22	April 23	+ 8	+ 11	+ 34
Comandra pallida	May 22	May 11	May 25	April 29	+ 9	+ 11	+ 34
Viola rugulosa	May 12	May 21	May 22	May 2	+ 9	+ 12	+ 33
Prunus virginiana	May 27	May 15	June 10	May 3	+ 10	+ 12	+ 32
Amelanchier alnifolia	May 7	May 11	May 24	May 3	+ 9	+ 12	+ 31
Viola nephrophylla	May 13	June 3	June 22	May 4	+ 9	+ 13	+ 32
Anemone multifida	May 13	May 8	May 25	May 7	+ 10	+ 13	+ 31
Hedysarum mackenzii	May 13	May 21	May 24	May 7	+ 11	+ 14	+ 32
Lithospermum ruderale	May 13	May 19	May 31	May 7	+ 11	+ 14	+ 32
Smilacina stellata	May 14	May 11	May 24	May 7	+ 10	+ 14	+ 31
Disporum trachycarpum	May 7	May 21	May 25	May 8	+ 10	+ 14	+ 31
Clematis verticellaris	May 13	May 12	May 22	May 9	+ 10	+ 13	+ 30
Potentilla anserina	May 29	May 20	May 25	May 10	+ 10	+ 13	+ 30
Thalictrum venulosum	May 17	May 28	May 25	May 10	+ 10	+ 13	+ 29
Penstemon nitidus	May 15	May 25	May 24	May 11	+ 10	+ 13	+ 29
Vicia sparsifolia	May 18	May 23	June 8	May 11	+ 10	+ 13	+ 29
Zizia aptera	May 23	May 11	May 25	May 15	+ 10	+ 13	+ 28
Calypso bulbosa	May 21	May 26	June 3	May 16	+ 9	+ 13	+ 28
Cerastium arvense	May 13	May 21	May 27	May 16	+ 9	+ 12	+ 27
Lathyrus ochroleucus	June 3	June 3	June 8	May 16	+ 9	+ 13	+ 27

REPORT OF THE PUBLICATIONS COMMITTEE, MAY 1976

The committee is now in fact a committee, consisting of Jim Case and Barbara Danielson of Calgary, Maxine O'Riordon of Red Deer, Virginia Maitland of Erskine, and Martin McNicholl and Chip Weseloh of Edmonton. Other member clubs have been invited to appoint members to the committee, but as yet have not done so. At present the committee is essentially an Editorial Board for the Alberta Naturalist. However, we shall shortly be examing publications of the Federation in general to see whether we are ready for additional publications. Regular lengthy reports, such as the Phenology Report, might in future be published as a supplement to A.N., or in a special series. My priority to date has been the Alberta Naturalist, and the formation of an actual committee. Thus, I have postponed detailed analysis of the questionnaire. Now I hope to put the committee to work, so that we may have a detailed proposal on FAN publications ready for the September meeting.

Another task of the committee will be to draw up a policy on jurisdiction of the nature publications of FAN member clubs. We hope to be able to refer manuscripts virtually automatically to more appropriate journals when the need arises. The Editor of E.N. recently passed an article on fossil fish in Alberta on to A.N. as a more appropriate place for the article to appear. However, an article on mammals at Pigeon Lake was published in Calg. Field Nat., a very inappropriate place. With a stated policy in this regard, Editors of local journals could pass material on to A.N. or vice-versa without offending authors.

The March 1976 issue of the Alberta Naturalist was published on time, and contained 64 pages. The June issue should appear in late June. Most of the editing is now complete, but I thought it would best be delayed until after the meeting this weekend. However, whenever possible, issues will appear in the month stated on the cover. New features in the June issue include a "President's Page", a section for "Letters to the Editor", and a separate section for "Conservation News", as distinct from "Notes & News."

A policy on advertising in A.N. has been prepared for this meeting

by the Chairman of the Publicity Committee (John Powell) and the undersigned. We have not yet received a reply from the Provincial Government concerning a grant for A.N.

I have initiated a policy of writing to or phoning all contributors to acknowledge receipt of their material. Some has been returned for revision. In addition, I would like to propose a Resolution that all contributors (both artists and authors) who are not members of FAN be sent a complimentary copy of the issue in which their contributions appear. This has been done to some extent in the past, but has not been official FAN policy.

Martin K. McNicholl
Chairman

PROPOSED ADVERTISING POLICY FOR THE ALBERTA NATURALIST

Martin K. McNicholl and John M. Powell

General Policy:-

A limited amount (10% maximum) of advertising should be allowed and encouraged in the Alberta Naturalist. This should be strictly limited to items considered to be compatible with and relevant to FAN's overall objectives and policies. Examples of items allowed would be nature or ecological books and magazines, nature tours, camera and optical equipment, recording equipment, plant presses, banding supplies, etc. Examples of items not allowed would be snowmobiles or other ATV's, fishing gear, hunting supplies, etc.

Jurisdiction:-

1. In cases where compatibility, conflict, or unsuitability of an advertised product with FAN's objectives is clear, the Editor and Chairman of the Publicity Committee or their delegates could decide whether to print the ad without referring

to the FAN board. When any doubt arises, a board decision would be necessary.

2. Any soliciting of advertisements would fall under the jurisdiction of the Publicity Committee.

3. Rates would be determined from time to time by the Publicity Committee in consultation with the Finance Committee. All member organizations of FAN, and its national equivalent, CNF, would be granted advertising free or at cost. Similar free or at cost advertising courtesy would be granted other organizations such as the Alberta chapters of NPPAC or the Alberta Wilderness Association, if the Editor felt the item advertised deserved such support by FAN. Any doubts on such matters would be referred to the Board. Requests for information will be published free as before, and not considered advertisements.

CLUB NEWS

Clubs are requested to attempt a report for this section of the Alberta Naturalist for each issue, so that we are all informed of activities across the province. Reports are welcomed from the High River and Grande Prairie groups which are not yet officially corporate members. And we welcome in advance these two new clubs to the Federation.

ALBERTA NATURAL HISTORY SOCIETY

Central Alberta's Naturalist Club Established in 1906

KERRY WOOD WEEK

The week of June 1st to the 5th has been set aside to honor Alberta's famous naturalist writer and Honorary Member of the Federation,

Kerry Wood. Kerry has retaped the scripts of his radio talks and the A.N.H.S. are presenting them to the Red Deer Public School District for use in the schools.

There will be an exhibit of Kerry's works at the Pioneer Lodge in Red Deer on Saturday afternoon June 5th. At 2:00 p.m. Kerry will officially present his taped talks to W.B. Brownlee, Chairman of the Red Deer Public School District.

An invitation is extended to all those who have enjoyed his writing and wish to meet him or renew an old aquaintance.

Geoff Broadbent
President

ALBERTA NATURAL HISTORY WINTER PROGRAM

Dr. Grant MacEwan spoke to our club in September, sharing with us his philosophy of the truly contented man whose needs are simple, andin harmony with the natural world. A local member, Marian Goldstrom, presented 80 excellent bird slides, synchronized with a tape of calls. We were present at the birth of a beaver when, in January, Edwin Oertte of Banff shared with us a tremendous study of beaver. He had dug a tunnel to view the beaver house and many hundreds of hours of observation were represented. Don Wales, President of the Alberta Wilderness Association very ably gave a presentation of the concerns of that organization. Edith Jerome took us on a jaunt to the Yukon with her photography and ready wit. Bryan Shantz of Nanton capped off our year with an outstanding program, Ecology of the Rockies and the Great Horned Owl.

In November a workshop was conducted to assist our society and the public to prepare briefs in preparation for the E.C.A. hearings on the Red Deer River Dam. Eight members gave briefs, and many others presented written statements. The society had a successful Boxing Day Bird Count. Highlight of the year was a relaxed weekend at

Camp Caroline, "roughing it" beside the indoor pool.

Outdoor activities, pure enjoyment and the raising of environmental consciousness added up to a good mix for a highly successful winter.

ALBERTA NATURAL HISTORY SUMMER PROGRAM

Many activities have been planned for the summer, with regular nature walks each Wednesday evening in a 5 to 10 mile radius of the city. Other longer car jaunts, hikes, bird watches and canoeing will be held monthly. We will be hiking to Howse Pass in August, with supplies taken in by pack horse. Summer programs have been mailed to all F.A.N. clubs. Come join us!

Maxine O'Riordon
Secretary

BOW VALLEY NATURALISTS

Spring & Summer - 1976

Sunday, May 9 - 8:00 a.m. - The Yamnuska. This should turn up some migrant birds and early blooming plants. Mike & Diane McIvor.

Saturday Sunday Monday May 22,23,24 - Federation of Alberta Naturalists spring meeting in Edmonton. Mike & Diane McIvor.

Saturday June 12 8:00 a.m. - Bow River from Banff golf course to Canmore. Gerry Wilkie

Wednesday June 23 5:30 p.m.	-	Stoney Squaw Mountain. Bunty Nelson 762-2159.
Sunday June 27 8:00 a.m.	-	The Yamnuska - Mike & Diane McIvor. The aspen jungle in full bloom.
Sunday July 4 8:00 a.m.	-	Ptarmigan Valley - spring in the high country. This will also be an opportunity to examine the alternate route through the valley which we proposed in our State of the Park brief. Jon Whyte. We are planning to charter a bus from Banff to Temple so those planning to go must notify the leader or someone on the trips committee at least 10 days in advance. Round-trip bus fare will be $3.50 to $4.00.
Saturday Sunday July 17,18	-	Federation of Alberta Naturalists - summer madness. Big Knife Provincial Park - hiking and canoeing. Mike & Diane McIvor.
Saturday July 24 8:00 a.m.	-	Lake Minewakum - a beautiful hidden lake in the Lake Louise area. Janet Amy.
Sunday August 15 7:00 a.m.	-	Burstall Lakes and Pass area. We hope to combine this with a look at the proposed Assiniboia development area. Aileen Harmon 762-3607.
Saturday August 28 8:00 a.m.	-	Crowfoot Pass and Balfour Lookout. Running shoes are an essential extra for crossing the Bow River. Bruce Gordon.
Sunday September 19 8:00 a.m.	-	Floe Lake - our annual larch trip. Jon Whyte.

Saturday - Federation of Alberta Naturalists fall meeting
Sunday High River. Mike & Diane McIvor.
Sept. 25,26

All trips begin at the Bear Street Parking lot across from the Library. (Peter Whyte Centre). For information about the length and degree of difficulty of trips, check with the leader or someone on the trips committee. Bring warm clothing, boots, rain gear, lunch, field guides, etc. Notify the trip leader if you plan to go. If you can't contact the leader, phone someone else on the list. PETS ARE NOT PERMITTED.

Trips Committee

Janet Amy	762-2148
Bruce Gordon	762-2715
The McIvors	762-4160
Jon Whyte	762-3254
Gerry Wilkie	762-3178

The Bow Valley Naturalist executive have been active recently. We have written in support of the proposed Grasslands National Park in southern Saskatchewan. We have also supported the report and recommendations contained in the Environment Conservation Authority's Review of Coal Exploration in the Eastern Slopes of Alberta. Also, we have written the Prime Minister and other members of the federal Cabinet to express our disappointment at their decision to damn the odds and the environmental consequences and proceed with offshore drilling in the Beaufort Sea this summer.

BUFFALO LAKE NATURALISTS CLUB

The Buffalo Lake Naturalists held a series of bird studies during late winter and spring, using both study skins and Peterson's bird song recordings. Guest speakers during the winter months were Stettler County Fieldmen - Bill Bauer, Karel Sars of Galahad (a club

member), Marian Goldstrom of Red Deer, Graeme Greenlee of Edmonton, and Mary Muhlbach (also a club member).

The April meeting was held at the Stettler Town and Country Museum, and featured a talk on Indian diggings by Mary Muhlbach. Several members of the Naturalists Club have been involved in the organizational work at the museum, including Jim Burrell, Vera Hanson and Edna Heywood.

Many interesting outdoor activities are in the works for this summer, probably the most important one being the hosting of FAN's summer field trip at Big Knife Park on the Battle River the weekend ofJuly 17 and 18. The club hopes to see as many Alberta naturalists there as possible, and is also hoping for a beautiful, sunny weekend, to match the beauty of the park.

Lloyd Greenlee

REPORT OF THE CALGARY FIELD NATURALISTS' SOCIETY

June 1, 1975 - May 31, 1976

One of the most exciting and rewarding projects to materialize this year was the printed publication, the Popular Guide to Calgary's Natural Areas, which followed two earlier publications - 1973, 1974 in mimeograph form. The printed publication has been placed in book stores and is being sold by the club members and the sales number approximately 7,000. A second printing is being arranged for the same number and at the same price of $3.75 per copy.

There have been ten regular meetings and ten Natural Areas meetings, and seven study nights throughout the year, and fifteen field trips. The Annual Christmas Bird Count was organized by Ian Halladay and resulted in CFNS keeping the trophy for a total of 47 species. Barbara Danielson organized a Migration Period Hawk Watch.

A Bird Study Group was organized and remains active. One Junior Naturalist Group has been organized. Interest has been shown in Mammal and Botany Study Groups.

C.F.N.S. sponsored two Audubon films and managed to make a profit and enjoyed the films immensely. Four will be shown this coming season.

The Snowy Owl Study project continues into its third year.

The membership totals 320 made up of single adult memberships, family memberships, junior memberships and subscriptions only.

The Editorial staff have published eleven issues of the Calgary Field Naturalist.

Highlights have been the Popular Guide's reception by the public, the Natural Areas projects, field trips, a junior naturalist group, and the anticipation of another great year.

Special Awards for extra-special services rendered to the Calgary Field Naturalists Society were presented by the president to Dr. Charles Bird, Mrs. Barbara Danielson, Mr. Peter Sherrington, Mrs. Beryl Hallworth and Mr. Gordon Kerr on May 19th.

Mary S. Lore, President

EDMONTON NATURAL HISTORY CLUB

by Gail Bembridge, Secretary

Field Trips, 1975 - 1976

1975
SEPTEMBER - Edmonton, Red Deer and Stettler Natural History Clubs on a joint field trip on the Red Deer River.

NOVEMBER - Visiting City of Edmonton ravines - this month - Mill Creek Ravine.

DECEMBER - Christmas Bird Count - jointly with Edmonton Bird Club.

1976

JANUARY - Another city ravine - Fulton Ravine.

FEBRUARY - A day trip to the Ministik Hills Field Centre.

MARCH - A walk through the City's Kennedale Ravine.

APRIL - Spring Wildlife at the Nisku Sloughs.

MAY - Genessee Fossil Beds and the Natural History Along the Trail.

JUNE - Early Morning Walk - Terwillegar Park (in the City).

Study Nights

1975

NOVEMBER - Winter Birds - Graeme Greenlee.

DECEMBER - Bird Feeders - Jack Park.

1976

FEBRUARY - Landscape Forms of the Edmonton Area - Ron Mussieux.
- Workshop on compiling Animal Record Cards to compile a 1975 Alberta Bird Report - (Chip Weseloh and Rainer Ebel).

MARCH - Activities of Insects and Spiders - Robin Leech.
- Plants and Your Health - Marg Reine.

APRIL - General Paleontology - Dave Kraus.
- Caddisflies - Andy Nimmo.
- Local Mushrooms - Mrs. Schalkwyk.

Programs, 1975 - 1976

1975

OCTOBER - Edgar T. Jones - 2 films - Alberta Outdoors
- Arctic Outpost Camp.

NOVEMBER - Terry Thormin - Nature in Central America.

DECEMBER - Ed Telfer - Big Game Ecology in the Boreal Forest; The Effect upon the Forest of Man and Other Animals.

1976

JANUARY - Dr. Rostocker - Northern Lights - Violence in the Sky.

FEBRUARY - Dr. Drake Hawking - Environmental Hazards in the Athabasca Tar Sands.

MARCH - Dr. C. Bird - Spring Blooming Wild Flowers.

APRIL - Julie Hrapko - To Russia with Botany.

LETHBRIDGE NATURALISTS' SOCIETY

by Helen Schuler

The Lethbridge Naturalists started out their year in great style with a program on birds of prey - primarily the research done with Peregrine and Prairie Falcons - presented by Richard Fyfe of the C.W.S. This aroused tremendous interest locally, and resulted in several members volunteering to help with hawk nesting projects under supervison of C.W.S. Our February meeting consisted of a talk by a young interpreter naturalist from B.C. - who talked on Garibaldi Park - giving us beautifully - slide interested, fascinating insights into natural life within the park. In March, Julie Hrapko came from the Provincial Museum to speak on flowers of northern Alberta. This was much enjoyed. We also had a botanical program in April - this time featuring an area closer to home - Waterton Park, presented by a person who has done intensive research on the area - Dr. Job Kuijt, a botanist with the University of Lethbridge.

In late April and early May, formal indoor sessions gave way to outings to various areas close to Lethbridge, primarily to make people aware of the spring arrivals. One field trip on April 11 to Eight Mile Lake proved very disappointing, as the lake had been drained as an irrigation "improvement." However, we continued on to C.P.R. Lake and the Oldman River and managed to chalk up 23 spring arrivals - and three species of early blooming flowers. April 17 and May 9 saw two trips to Six Mile Coulee to see the successions of spring flowers. May 2 was a combined bird and plant venture to a prairie lake. On this trip we saw an unusual ant-like spider - brilliant, velvety lemon-yellow with black border and legs, apparently a member of the jumping spiders. Chestnut-collared Longspurs were especially plentiful.

We have also been engaged in presenting a brief to the E.C.A. hearings on the dam on the Red Deer, and, along with members of another local conservation group, presenting recommendations on development of Waterton Townsite. Submissions were also made to local counties in conjunction with Southern Alberta Conservation Council and Lethbridge Fish and Game Association regarding preservation of unused road allowances for wildlife habitat. We are presently working on presentation to be made to the Berger hearings on northern development, to the three man commission on a Federal Grasslands Park at Val Marie and to the Hall Commission and Alberta Government on railway abandonment. Some members also became involved in the Environmental Education Conference, here and in Lake Isle - preparatory to assisting teachers in taking students out on field trips scheduled in May and June. There is also a handbook - checklist in the works - being prepared for the information of visitors to our Nature Reserve. Future projects include presentation to Parks Canada re master plans for Waterton National Park, and of course, the annual breeding bird surveys, with five routes being covered by members in this area. This, coupled with the usual involvement of various members as resource people in pushing the provincial bird nomination, guarantees never a dull moment in this neck of the woods.

CONSERVATION NEWS AND COMMENTS

NOTE: This new section has been implemented in order that naturalists wishing a quick overview of conservation issues in Alberta may have a ready guide to the current issues. Submission of conservation notes and comments on issues is urgently needed. Items of special conservation interest elsewhere in this issue of the Alberta Naturalist include the first article (cover story) by Dick Dekker, the critique by Brad Smith, Naturalists' Bookshelf numbers 20 and 21, the President's Page, Resolutions passed at the 18th FAN Board Meeting, the comment from the Wilderness, parks and natural areas committee, and the Lethbridge club report.

Trans-Canada Twinning at Banff - An editorial in Park News 11(1): 3, 1975 notes that a decision has not yet been made on a proposal by Parks Canada to twin 7.8 miles of the Trans-Canada Highway in Banff National Park. An impact statement concerning the proposal did not consider various alternatives, nor whether or not twinning is truly necessary.

Banff Townsite - A one year delay in approval of commercial development in Banff townsite was announced last winter by Northern Development and Indian Affairs Minister, Judd Buchanan, subject to review on 1 December, 1976. Housing development is allowed during this period, and previously approved commercial developments will not be halted (From Parks for Tomorrow 3(3): 2, 1975).

Alberta Chapters of N.P.P.A.C. - The Calgary-Banff and Edmonton Chapters of the National and Provincial Parks Association of Canada have both held interesting programs during the past year, and continue writing briefs on important park issues. A joint meeting was held in Red Deer in October, 1975, but was not the first such meeting, at least at an executive level, as erroneously reported in Parks for Tomorrow 3(3): 5, 1975. Both chapters deserve your support. Their addresses are: Banff-Calgary Chapter N.P.P.A.C., Sub. P.O. 91, Box 608, University of Calgary, Calgary,

Alberta T2N 1N4; and Edmonton Chapter N.P.P.A.C., 13715 - 101 Avenue, Edmonton, Alberta T5N 0J8.

Churchill River - The Edmonton Chapter of N.P.P.A.C. has recently submitted a brief to the Federal Government, supporting a National Historic Waterway including the Clearwater River in Alberta and Saskatchewan, and a major portion of the Churchill River in Saskatchewan, as reported in the Chapter's Newsletter 7(3): 2, 1976. Dr. W.G. Pearce prepared the brief.

Overgrazing at Suffield - Several recent reports have appeared in newsletters of the Edmonton Chapter, N.P.P.A.C., Nature Canada, etc. of severe overgrazing of Suffield. The cattle were allowed into the reserve in 1972 and following years because of drought. This "drought" is now over, and cattle are not to be allowed there in 1976. However, grazing there remains as a threat, and further danger is found in the proposed allowing of access to the Middle Sand Hills for drilling gas wells in 1977. We hope to have a detailed appraisal of the Suffield situation in the September Alberta Naturalist.

Elk Island & Cooking Lake - A wildlife range to extend from Elk Island National Park south to the vicinity of Cooking Lake has been proposed by the Public Advisory Committee of the Environment Conservation Authority. Since most of the land involved is in the Blackfoot Grazing Reserve which the Blackfoot Grazing Association would like exchanged for community pasture elsewhere, the practical difficulties barring the proposed range appear minimal. (Based on report in N.P.P.A.C. Edmonton Chapter Newsletter 7(3): 3-4, 1976).

Lake Louise - Stephen Herrero reports elaborate plans for public participation in planning the proposed expanded visitor service center at Lake Louise (Newsletter Edmonton Chapter N.P.P.A.C. 7(3): 4-5, 1976). He expresses guarded optimism that such participation will be meaningful this time.

Great Divide Trail - Both Alberta chapters of N.P.P.A.C. have held presentations on the proposed Great Divide Trail over the past winter. If the proposed trail areas are to be protected, the

Great Divide Trails Association needs public support. Ailene Harmon (Edmonton Chapter N.P.P.A.C. Newsletter 7(5): 1, 1976) has expressed strong reservations concerning the fact that such a trail may in itself endanger the area by over concentrating hikers. We hope to present both sides of this issue in the next Alberta Naturalist.

Jasper - Judd Buchanan, Minister in charge of National Parks, is seriously considering removing the present Canadian National Railway divisional point from Jasper National Park. 500 CNR employees and their families would be moved to Valemont, B.C. or Hinton, Alberta. This move would hopefully relieve some of the current population pressures on the townsite (Based on article in Parks for Tomorrow 4(1): 2, 1976).

Eastern Slopes Policy - According to Environment News 4(2): 2 & 9, Alberta Environment Minister Dave Russell has released an Eastern Slopes policy emphasizing watershed protection. Details were not given, beyond mention that some coal exploration and other questionable activities would be allowed to proceed almost immediately. This issue has received careful study and scrutiny by the two Alberta Chapters of N.P.P.A.C., resulting in their joint statement on the matter. This issue is of such importance that we reprint this important statement here.

STATEMENT ON EASTERN SLOPES POLICY

by Calgary, Banff, and Edmonton Chapters, N.P.P.A.C.

The following statement is intended to comment on the Government's policy statement on the development of the Eastern Slopes (issued 18th July, 1975) and the elaboration of this policy in recent speeches by the Minister of the Environment, Honorable David Russell.

Some features of the Government's policy are encouraging. Particularly welcome are the promises to designate more parks and wilderness areas in the Eastern Slopes, and to protect most alpine and

subalpine areas from damage by resource development. We look forward to the announcement of specific measures to implement these promises. Also welcome is the Government's greater restraint in granting coal exploration permits during 1975, and the proposal to introduce a reclamation levy on coal production.

At the same time serious questions remain unanswered about the administration of such land in the Eastern Slopes which will not be set aside in parks or wilderness areas. The Government has announced that it will adopt a multiple-use policy, which will be "integrated" and "closely managed" with emphasis on watershed protection. However, no new administrative or planning agencies have been proposed to achieve these objectives. The existing Interdepartmental Planning Committee for the Eastern Slopes has no statutory powers, and appears to be dealing with problems on a piecemeal basis without the benefit of any overall land-use plan. Nor has any policy yet been announced on coal exploration and development, which clearly pose the most serious immediate conflict with watershed protection. We recognize that the Government is developing its policies in these areas, and that further announcements may be expected. In the meantime we wish to place on record what we see as desirable policy objectives, with the hope that we may aid in this consideration.

1. The Government should work on a point-by-point response to the Environment Conservation Authority's recommendations (totalling over 100 pages) and publish this as soon as possible. It is generally recognized as unsatisfactory that the Government has still made no comment at all on many of these recommendations. This leaves all with recreational or economic interests in the Eastern Slopes in a state of uncertainty.

2. The policy of emphasizing watershed protection needs to be supplemented by specific measures, such as restriction or prohibition of road construction in sensitive areas. It is difficult to see how this will be achieved without the introduction of zoning regulations to prevent the impairment of sensitive areas of the watershed through

the decisions of Government agencies concerned with short-term economic objectives.

3. The completion of the Foothills Resources Allocation Study will soon provide the data base needed for determining priorities of land use in particular areas. We urge the Government to undertake a thorough review of the need for a zoning plan for the Eastern Slopes as soon as the fourth (final) phase of this study is available. A zoning plan should identify areas where coal and other mineral development will be considered, areas suitable for forestry, as well as areas of value as provincial parks, wilderness areas and ecological reserves. It is particularly important to identify complete ecosystems with intact fauna (including predators) worthy of protection in perpetuity. Without a zoning plan defining the priorities of conflicting uses and binding on all Government agencies, the adoption of a "multiple-use policy" means little in practice and will leave Government agencies free to continue making decisions on an ad hoc basis.

4. The present position of the Lands Division in the Department of Energy and Natural Resources is unsatisfactory, since it will lead to land-use decisions being unduly influenced by the interests of the resource companies with which that Department has close ties. It would be preferable for this division to report to an interdepartmental Land Use Secretariat responsible directly to the Cabinet, as has been proposed by the Land Use Forum. Under such an arrangement, environmental and recreational concerns would receive greater weight in reaching land-use decisions, because the composition of the Secretariat would not accord the interests of any one Department automatic precedence.

5. The Government should take up the Environment Conservation Authority's offer to maintain a continuing review of land-use in the Eastern Slopes, and, in particular, ask the Authority to hold public hearings on new proposals for developments not considered in detail at the 1973 hearings.

Public service projects of Government agencies should be subject to public hearings according to the same criteria as proposals by private developers. The public will not accept hearings by the Energy Resources Conservation Board as providing a fair hearing for objections to proposed developments.

6. Non-consumptive recreational use of the Eastern Slopes needs to be comprehensively planned to prevent user conflicts and to harmonize use levels with carrying capacity. The Government should assume responsibility for constructing trails to prevent damage by the development of unplanned trail networks.

7. Architectural control should be exercised over both public service and private buildings in the Eastern Slopes, in consultation with Travel Alberta. Urban growth and visitor services should be confined to existing communities as far as possible.

8. The Willmore Wilderness Park should be given statutory protection from surface disturbance by mineral exploration or mining and regulations introduced to make motorized entry (whether with on- or off-road vehicles) an offence. No changes in the boundaries of the Willmore should be considered without public hearings in view of the unique significance of this area in Alberta's Wilderness system.

9. An early announcement on the status of the Environment Conservation Authority's recommendation for the establishment of Yamnuska Provincial Park is desirable.

10. Buffer zones with restrictions on land use should be established along the boundaries of the Rocky Mountain National Parks, in order to maintain the aesthetic integrity and preservational value of these Parks.

11. The system of granting subsurface leases should be reformed to prevent the further acquisition of property rights over large areas of land by resource companies, thus

restricting the choices of land-use open to future Alberta Governments. If we continue past practices, then the need to recover these leases may one day become a major political issue (compare the "Buy back Australia" slogan of the Australian Labour Party). The need to grant subsurface leases could be much reduced if contracts for the early inventorizing (phase 1) stages of exploration were offered by a Government agency. This should be seriously considered, especially in the case of coal exploration. Under such an arrangement coal leases would only need to be granted for areas where the Government wished companies to undertake detailed (phase 2) exploration with a view to submitting a mining proposal.

12. Means of access, whether for exploration, forestry or recreation, should be more rigorously controlled than in the past to protect land from inappropriate or excessive use and to control erosion.

Issued 18th March, 1976.

SLAVE RIVER RAPIDS, ISLANDS AND LANDS

by the Pelican - Portage Group

ALBERTA - NORTHWEST TERRITORIES BORDER

Fort Fitzgerald to Fort Smith

THE PROBLEM

Between the northeast corner of Wood Buffalo National Park and the southeast boundary of the Town of Fort Smith, N.W.T. lie some sixteen miles of scenic, historic, and biologically important Slave River Rapids, islands and lands.

This unique area is not protected by federal or provincial statue against further surface disturbance by man. Wood, rock and gravel have been removed. A federal hydro line right-of-way was granted across this area as recent as the 1960's. If, in future, the 2150 MGW hydro potential of these rapids must be exploited, it could be done with a view to leave the fragile rain forest and unstable silt banks and some 200 islets intact.

HOW YOU CAN HELP

The "Slave River Rapids, Islands and Lands Corridor" below the Alberta - Northwest Territories border is still just a proposal. Consequently it has no official status and the area in question is anything but protected. And it should be, by statute.

The concept of this "corridor" simply stands in total opposition to any future surface disturbance. The concept merely provides for a scenic wildland/river resource to future generations in perpetuity.

Before statutory protection can be declared by federal (water) and provincial (lands) legislation, government support for a feasibility study must be acquired. This feasibility could be examined by a small team of federal (A.R.C. Branch) and provincial (Environment, Recreation, Culture, Resources) and local interests. A Public Hearing would produce further input.

In order for federal and provincial governments to finally endorse the proposal we, the public, must demonstrate our interest and support for it all.

You can help in several ways:

(1) Join the Pelican-Portage Group.

(2) Make your feelings known: Write your letters in support of Statutory protection and "Restricted Development Area" designation of the Slave River Rapids, Islands and Lands and send them to key people mentioned below:

Alberta Provincial:

- Hon. A. Adair, Minister of Recreation, Parks and Wildlife.
- Hon. H. Schmid, Minister of Culture.
- Hon. D. Getty, Minister of Energy and Natural Resources.
- Hon. D. Warrack, Minister of Lands and Forests.
- with copies to Premier Lougheed and the M.L.A. for Northern Alberta.

Federal:

- Agreement for Recreation and Conservation (A.R.C.)
  Department of Indian and Northern Development,
  400 Laurier Avenue,
  Ottawa, Ontario K1A 9H4.
- copies to Hon. Judd Buchanan, Minister of I.A.N.D., and Prime Minister Trudeau.

The Pelican-Portage Group at the Alberta - N.W.T. Border is a network of people from many walks of life who are dedicated to the establishment of a protected corridor for the Slave River Rapids, Islands and Lands as a Restricted Development Area.

Membership fees are $1.00 annually.

Mail to: Pelican-Portage Group
Box 685
Fort Smith, N.W.T. X0E 0P0
Canada

COMMENTS ON THE ALBERTA LAND USE FORUM REPORT

by Dorothy Broadbent, President

Copies of the Report were not circulated to the individuals and organizations who had submitted briefs to the Land Use Hearings.

Arable Land

The primary concern of many of the people expressing their opinions at the Hearings, was the protection of arable farmland. This was mentioned in the Report but no solution was given for the problem of the increasing sprawl of Alberta's cities on to the surrounding farmland. On the contrary, the report states, "Calgary should be allowed to grow." The citizens of Calgary indicated in a recent plebescite that they did not wish their city to continue to grow.

Decentralization of industry and population are recommended as a means of curbing the growth of the large cities. This will stimulate the growth of new industries and attract out-of-province workers, causing small centers to expand onto the surrounding farmland. Red Deer, a city surrounded by rich black soils, is an example of this policy.

The Report mentions the development of the Calgary, Edmonton corridor, but offers no policy guidelines for the development of this prime farmland.

Foreign Ownership

This has been dismissed as unimportant. It was pointed out that only 2% of Alberta's farmland is under foreign ownership. However, as only 17% of Alberta's land is arable, this 2% is a significant amount. Large acreages are peddled on the foreign market by farmers hoping to make big profits. This inflates the price of all the land in Alberta.

Public Access to Private Land

The report recommends recreation be encouraged and the public be allowed access to all farmland for passive recreation. This will cause much abuse to private property. Educating the public as the report suggests is too time consuming to be practical. A system of public trails through farmland may be more acceptable to the land owner, provided they are only used for passive recreational pursuits, and provided this is rigidly enforced.

Crown Lands

The guiding principle of maximum revenue consistent with appropriate land use, means the multiple use of public land for resource extraction and grazing, little importance is placed on preserving natural habitat or places of aesthetic beauty. Grazing leases have not been adequately considered. Crown lands are the property of the people of this Province; they should not be sold or leased for private development.

Ecological Reserves

This important land use has been completely misunderstood in the report, Ecological Reserves are not just small pieces of land set aside for scientific research. They must be of sufficient size to provide a natural habitat for native species. They will become an important gene pool and will ensure the perpetuation of native species indigenous to specific regions of the province.

National Parks

The report agrees that National Parks justify their existence, but is concerned about resources going to waste within their boundaries. This seems to indicate a lack of understanding and appreciation for the function and value of National Parks.

Wilderness Areas

The compilers of the report appear to have little understanding of the concepts of wilderness areas. Growing numbers of people in this province and throughout Canada, value these regions as our most important natural resource. The report seems to regard them as a waste of land used only by a few people. This statement appears to indicate a lack of research on the subject.

Coal Mining

The Forum appears to be of the opinion that Alberta is now in a position to strip mine coal reserves and adequately reclaim them. Reclamation may be economically and practically feasible in Europe but the same methods will not work here in Alberta. It is important that the effects of coal mining be assessed as they

apply to this province. They should not be compared to different geological and climatic regions in foreign countries.

Land Use Secretariat

This seems a workable recommendation, but the success of such a project would depend on the qualifications and philosophy of the members of such a body. There is a great need for a land use inventory for this province. Land use should be determined by a committee of experts in all fields of land use. Detrimental uses of land should only be allowed after thorough impact studies have been undertaken. Executive decisions arrived at by a Secretariat appointed by purely political interests, would place little value on aesthetics, natural areas or wildlife habitat. It is important that extensive citizen input be allowed at the executive level, to balance the input of the business interests.

DODDS ROUNDHILL

by Dorothy Broadbent, President

On April 24th I attended a meeting in Camrose sponsored by the Dodds Roundhill Protective Association. Dr. Robert Curry, Professor of Environmental Geology, University of Montana, was the principle speaker.

Dr. Curry told the meeting that much of Alberta's prairie coal lies under soils having a high sodium absorption ratio (selenity) and it would not be legal to mine them in Montana. It would not be legal to burn the type of coal found at Dodds Roundhill in electrical power plants, as it is too high in sulphur.

He said it will be impossible to reclaim regions like Dodds Roundhill. It is one of the worst sites he has ever seen in the world, including the Sahara. The rich soils of Central Alberta were blown to their present sites 6,000 to 7,000 years after glaciation deposited the underlying till. The till came from the Canadian

Shield, the soil came from the Rockies, and they are of a different chemistry. Geo-chemical separation of the soils has given certain storage of nutrients in layers. These black soils are very productive as they came from the glacial silt of the Rockies.

The coal is only 6 to 24 inches below the soil. Removing the overburden to get at the coal will result in mixing the very fertile layers of soils with the soils high in sodium absorption ratio. It will also destroy the shallow aquifiers that flow through the coal to the surface. After reclamation has been attempted, the salt will leach to the surface when the land lies fallow. The water will no longer flow through the coal seams, but will rise to the surface, bringing the salt and ground-up coal and impurities with it. This will result in a ring of salt forming around all the pot holes. The salt will kill the vegetation, allowing more salt to perculate to the surface.

The coal and some of its overburden contain high levels of selenium, mercury and molybdenum. When the coal is burned, these elements will go up the smoke stack and rain down on the ground, hundreds of miles around the site. They will increase the toxic contents on the ground. Air pollution will increase the levels in the soil of selenium and molybdenum. These elements cause problems with livestock. In mammals, selenium curdles the milk while it is still in the mammary glands. Selenium and molybdenum inhibit the productivity of plants and the increased concentrations in groundwater will affect people.

The coal is high in sulphur, consisting of 6 to 7% of this element. Two pounds of sulphur will be emitted from the stack for every million B.T.U.s of coal burned. Many thousands of tons of sulphur will go out into the air. In the winter the open water from the cooling ponds will enable 25 to 30 million imperial gallons of water to vapourise and then condense, forming acid snow. This will acidify the soils.

Dr. Curry estimated that reclamation would cost $7,000.00 to $8,000.00 per acre. The yield of coal would be 7,000 to 8,000 tons per acre, valued at $6.00 per ton. Oil can rise to $16.00 per barrel before it becomes feasible to use coal. The Arab nations

are aware of the threat of coal, and will likely be very careful to keep oil below $16.00 a barrel.

Dr. Curry predicted that the proposed thermal electric plant would be filthy. Many tons of fly ash and sulphur products will be released into the atmosphere. I suspect this statement would apply to any power plant using prairie coal.

NOTES AND NEWS

New Banding Journal:-

Mike San Miguel (Western Bird Bander 50: 57, 1975) reports plans for a merger of the journals of the Western Bird Banding Association (covering Alberta, B.C. and the western states) and the Eastern Bird Banding Association. The new journal will be known as North American Bird Banding, reflecting a hope that other banding associations will later join in publishing it. Your editor will serve on the recent literature committee of the new journal.

Alexander Wetmore Research Fund:-

Dr. John T. Emlen, President of the American Ornithologists' Union has recently announced the creation of the Alexander Wetmore Research Fund to honour Dr. Wetmore's 90th birthday this June. Alexander Wetmore is among North America's most distinguished ornithologists, having served as President of the A.O.U. in the 1920's. The currently most recognized system of classifying major bird groups is generally known as the "Wetmorian line of evolution."

REQUESTS FOR INFORMATION, MEETINGS, ANNOUNCEMENTS

Eagle Observations:-

Christopher Servheen, College of Forest Resources, University of Washington, Seattle, Washington 98195, U.S.A., has requested information on observations of interactions between Bald and Golden eagles. In Ethology Information Exchange No. 3: 14(1975), he asks for sightings of "Interactions in the air, on the ground, at the nest site, over a food source, anything."

Raccoons:-

Larry W. Bogdan, Department of Biology, University of Regina, Regina, Saskatchewan S4S 0A2, is investigating the distribution and abundance of the Raccoon in Saskatchewan. He would appreciate information on sightings of this mammal either in Saskatchewan or Alberta. He has forms available for anyone with such information.

Mammals of Saskatchewan:-

W. Harvey Beck is currently revising his long out-of-print book on the mammals of Saskatchewan. He will welcome any reports, sent to him at Fort McMurray, Alberta.

Canadian Nature Federation:-

The 1977 meeting of C.N.F. is planned for Regina in late August, according to the Saskatchewan Natural History Society Newsletter 43: 9, 1976. Details will be announced as available.

Prairie Nest Records Scheme:-

Relatively few observers from Alberta contribute to the Prairie Nest Records Scheme. Information from such Schemes is more and more urgently required as base line data from which to assess population changes. Basic data on even common species can be vital. If you find any nests at all in Alberta this summer, I urge you to contribute to the Scheme. Geoff Holroyd will have an article on the importance of these Schemes in the September

Alberta Naturalist. In the meantime, cards can be obtained from Herbert U.R. Copland, Manitoba Museum of Man and Nature, Winnipeg, Manitoba. Every card is important!

Trumpeter Swan Society:-

The Trumpeter Swan Society's biannual conference will be held 8-10 September, 1976 at Triangle X Ranch Moose, Jackson Hole, Wyoming. For additional information contact: David K. Weaver, Secretary-Treasurer, The Trumpeter Swan Society, Box 32, Maple Plain, Minnesota 55359, U.S.A.

INFORMATION REQUIRED FOR FORTHCOMING BOOK:

AMPHIBIANS AND REPTILES OF ALBERTA

The book is intended to fill a long needed link in the series of Natural History of Alberta publications. Scheduled for publication December 1977, the work will contain detailed descriptions of all Alberta species with a comprehensive text describing the habits, biology, distribution, biogeography and ecological relationships. The book will be extensively illustrated with photographs, line drawings, color plates and will include a record containing representative vocalizations of all the frogs and toads. Authors for the work are: Principal author - Jim Butler, Associate authors - Cliff Wallis, Cleve Wershler, Vic Lewin and Wayne Roberts.

YOUR HELP IS REQUIRED

There exists a scarcity of published information on the herpetofauna of Alberta. It is essential for the accuracy and completeness of this work that all Alberta naturalists and biologists sharing an interest in herpetology contribute toward this much needed volume. Your field notes and observations are very much needed and any help will be duly acknowledged.

Attention is required toward distribution records, phenology, behavioral observations and ecological relationships.

Those who are able to provide assistance, contribute data or who desire further information should write to:

Jim Butler - 6720 - 36A Avenue, Edmonton, Alberta T6K 1S3.
Vic Lewin - Department of Zoology, University of Alberta, Edmonton, Alberta.

ANNUAL INSECT-COLLECTION COMPETITION

Sponsored by the

ENTOMOLOGICAL SOCIETY OF ALBERTA

The Entomological Society of Alberta will again be holding its Annual Insect-Collection Competition for residents of Alberta.

Competitors should start collecting insects this coming spring. Prizes will be awarded for the Best Three collections in each of the following groups:

1. Juniors - General collection: Age 12 and under (age on October 1, 1976)
2. Seniors - General collection: Age 13 to and including age 17 (age on October 1, 1976)
3. Open Challenge: Any amateur: No age limit

Collection MUST adhere to a theme and MUST be the result of ONE year's collection. EG. Insects of waterside habitats (waterside habitat is any habitat adjacent to water, be it a stream, lake, pond, puddle, swamp, or any other extremely moist habitat).

ONLY COLLECTIONS FROM INDIVIDUALS CAN BE ACCEPTED

PRIZES: Will include biology textbooks, collection equipment, mounting and displaying equipment or cash depending on individual circumstances.

Advice on collection and mounting insects may be obtained from the Department of Entomology, University of Alberta: Department of Biology, University of Calgary: Forest Research Laboratory, Edmonton: or Canada Agriculture Research Station, Lethbridge.

The following helpful publications and equipment are available by writing to Department of Entomology, University of Alberta, Edmonton T6G 2E3.

1. "Tips on Making an Insect Collection" Mimeographed (Free)
2. "The Insect Collector's Guide" (25 Cents)
3. Clear-topped plastic insect display boxes (13 x 19 x 2½") Pluse 100 insect pin mounts - $3.00 postage included.
4. Insect collection nets (8" diameter), handle - $4.50 postage included.

SNOWY OWL AND COMMON LOON PRINTS

by Ludo Bogaert

Small prints of the Snowy Owl are available, priced at $1.00 each. Large prints of the Snowy Owl are available, priced at $2.50 each. Large prints of the latest drawing of the Common Loon are available at $5.00 each. These prints are suitable for framing, and are all the work of the well known nature artist Ludo Bogaert. Please send remittance to: Federation of Alberta Naturalists
Box 1472
Edmonton T5J 2N5

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Deadlines for submission of material to the Editor are: February 15, May 15, August 10 and November 15. Please include your address. All maps, charts, etc., should be submitted on white paper, of the appropriate size for publication, preferably done in type and/or india ink.

FAN membership fees are $2.00 per year regular, $10.00 supporting, tax deductible ($8.00 worth). Mail remittance to: Federation of Alberta Naturalists, Box 1472, Edmonton, Alberta T5J 2N5.

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